

COAL AGE

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Proceed with Caution

THE MAIN LINE of progress has been cleared for trade associations by the Supreme Court of the United States. But the recent momentous decisions justifying the Maple Flooring Manufacturers' Association and the Cement Manufacturers' Association in the exchange of information concerning production, stocks and prices of closed transactions does not give coal trade associations the right to run wild. It cannot be denied that, in this industry as well as in most others, a small but troublesome minority has, in the past, been willing to exceed the limits of safe speed in the conduct of association business. If this 1 per cent minority ever did succeed in getting their coal trade associations to overstep the line of law and decency, they should never be permitted to have such influence again. The time for the 99 per cent of wise, sound, law-abiding coal men to assume full control is now.

The service that coal trade associations can render the industry, the consumers of coal and business generally, is large. Fair, prompt and accurate dissemination of data on production, stocks and distribution of coal by classes, together with closed quotations will serve in the future, as it has in the past, to add a stability to coal mining and selling such as could not otherwise be enjoyed. Publication of prices is an effective safeguard of the consumers' interests. It maintains competition and enables local buyers to have all the advantages of full information. Nobody can be victimized with such a system in effect. Prices of coal would always be as low as legitimate costs of production and distribution permit.

The Supreme Court has performed a great service for the trade associations of the land, actual and potential, by its decisions which clear the track of many open derails and unknown dangers lurking around curves ahead. But by this very fact the trade association as an institution is more than ever in the spotlight. Not many secret interchanges of prices, for instance, will be needed in order to bring about a bad wreck. The wise men of coal will recognize this fact and be alert to make the associations in this industry function fully but legitimately.

It's the Style

THERE ARE STYLES in house heating as in everything else. The foreigner who comes over to America may feel he would like to keep a cool house and conserve fuel, but his gossiping neighbors soon bring him to time. They suggest he is stingy, that he is not good to his wife and children and they shame him into a more liberal use of heat. "Look," they say, "he is comfortable at the office but he lets his wife and kiddies freeze at home."

A New York magazine recently told a story about an Englishman who came to America and was engaged to tend the greens on the links of a golf club. He remem-

bered with gratitude the comfort of an English fireplace that warmed his broad back as he acted as an effectual fire screen for the rest of the family. The reader will perhaps recall pictures in *Punch* showing an Englishman thus regaling himself.

Be that as it may, the Britisher referred to is said to have called on the steam fitter to remove the radiators from his home—those radiators that gave such a well-diffused heat that when they were full of steam he could not obtain the comforts of home as he conceived them. How long did he continue to be allowed to thus violate our cherished American traditions? He, doubtless, was the butt of the surrounding neighborhood, a byword to his neighbors. Such is habit. Such is also style.

Now it is not impossible to create the reasonable notion that the advent of spring is treacherous, that the first warm days are followed by the killing frost, that it is not well or, indeed, safe and sane to put out the fires early. Some householders end the firing long before the apartment-house keeper is allowed to do so. Severe colds and great discomfort are inevitable. Pneumonia is not an unlikely result. A word to the consumer generally repeated by the retailer, wholesaler and operator would lengthen the end of the furnace heating season and might also make the starting of household heating earlier, for it is easy to argue against discomfort. There is, in nearly every household, the "warm body," man, woman or child who rebels against the cold house. Advertisements in the daily papers will bring that sentiment to light and bring an insistent demand for more reasonable living conditions. Which is just what the coal producer needs to give a nearer approximation to steady operation.

Introducing West Virginia

ACQUAINTANCE, or as the public now pleases to term it "contact," is the best way of overcoming prejudice. The sooner the coal man realizes that fact in his public relations the better. Consider for instance the state of West Virginia. It has suffered greatly from isolation, and it will never fully re-establish itself till the public has an opportunity to see the state, its people, its institutions, and its scenery.

Recently a number of fine roads have been made in that state where twenty or thirty years ago in the dry season the people traveled the creek beds. In the wet weather they stayed at home. Now with the aid of the steam shovel, wide and well-graded roads have been excavated along the slopes of most of the larger water-courses. These roads have been surfaced with concrete. The people are still road-conscious, and the program will rapidly extend. Strange to say, the coal companies, who pay most of the taxes, are among the foremost advocates of road construction. One company has built and presented ten miles of fine concrete roads to the public.

All this road work would do but little to bring visitors if West Virginia were not a likely candidate

for honors as the most beautiful of all the Eastern states of this Union. The mountains are covered with verdure even where the valuable lumber long ago has been harvested. In Pennsylvania the hills are often covered with briars, burned tree tops, and fallen logs, but, for some reason, possibly because the hunting is not good and there are no careless campers to light fires, West Virginia has woods that retain all their pristine beauty.

Better hotels are needed, it is true, but nevertheless, the towns of West Virginia are far better equipped than places of equal size in the Middle West. The operators have shown a recognition of the need for hostleries, and the hotel accommodation is far beyond what might be expected. We prophesy that in a few years the state will be dotted with roadhouses. When that time comes the general public will know West Virginia, and that state will know the rest of the world, and many of the recriminations of the past will be buried as a result of the contact.

The operators and chambers of commerce of West Virginia will do well to prepare that state to welcome visitors to its glorious hills and sparkling streams. In no other way can they more firmly convince the public that the state has an honored place in the American commonwealth. Having made the necessary preparation why should not West Virginia advertise itself as a health resort like Florida or California, and entice transcontinental travelers from the well-beaten roadways of Pennsylvania to the romantic beauty of her southern sister state?

Welding Autogenously

UNTIL the comparatively recent past, the welding of iron and ferrous alloys generally has been done much as it was three or four thousand years ago when man first learned to work this metal. Every one is familiar with this process. In its simplest form (that employed with soft wrought iron) it consists in bringing the two pieces to be joined to a welding heat, or one at which they become slightly plastic, placing them in contact and uniting them by hammering or by extreme pressure.

When mild steel largely supplanted wrought iron for industrial use, welding became somewhat more difficult. Steel is "slippery," and consequently in welding it some kind of flux, such as borax, is necessary in most instances. The quality or relative strength of an ordinary weld in mild steel is much more uncertain and problematical than in wrought iron, even though greater care and skill is exercised by the smith.

Within recent years, however, autogenous welding by several distinct methods has been perfected. This process is different in principle from the time-honored hand method. In the autogenous weld not only are the parts to be united actually fused at the welding point but the added material as well. Thus, regardless of what particular process is used the weld if properly made, is almost certain to be more uniform and homogeneous than where the union is secured by hammering or pressure while the metal is merely plastic.

Welded pieces pulled apart in a testing machine show conclusively the comparative strengths of the welds made by hand and autogenously. Hand-welded pieces almost invariably fail at the weld; autogenously welded pieces usually fail at almost any other point. This

is proof positive of the comparative efficiencies of the unions made by the various methods.

Because of its strength, homogeneity and ease with which it can be made, many mines have adopted the autogenous weld for much of the work coming to their shops in place of the more ancient and less certain hand method. By the same token many others may well follow their example.

More Milestones

RULE-OF-THUMB methods are yielding to engineering skill no less surely in the merchandising branch of coal than in the operating end of the industry. The progress may be slower because heretofore the necessity for the substitution of knowledge for tradition has been less apparent in selling than in mining, but progress there indisputably is.

For some time alert bituminous coal producers have realized the desirability of meeting competition for tonnage with a service which embraced a scientific analysis of the fuel problems of the prospective customers as well as a bid for business upon price. More recently the anthracite shippers have also made the combustion expert an integral part of their selling organizations and, through the co-operative arrangements with the retail trade in some of the larger eastern cities, have made this service available to the public at large.

With many of the larger retail distributing companies the combustion engineer is a recognized, valued member of the sales staff. He is applying trained knowledge to the solution of problems which his non-technical, but ambitious, predecessors sought to unravel with hit-and-miss, uncorrelated, personal experiences and often praiseworthy ingenuity. Better still, the combustion engineers are becoming the nuclei about which progressive merchants are building up real service departments.

The most promising feature of this development is that it is not wholly confined to the larger distributors. Retailers whose tonnage runs to more moderate totals are encouraging their employees to study combustion engineering. In communities where the association spirit is healthy the retailers are doing effective work through their organizations. Kansas City dealers, for example, employ a combustion engineer whose services are free to the consumer; in addition, the retailers make a careful check of heating plants during the slack season to see if deliveries have been made properly and during the coal-consuming months to see if the consumers are burning the right kind of coal and are getting efficiency out of their plants. Some companies have gone so far as to make provision for the removal of ashes from consumers' cellars.

The movement, of course, is still much in its infancy. Much remains to be done both in the extension of the service to groups not now participating in the work and in the expansion of the service in units that already have taken the pioneering steps. The day when all coal is merchandised upon a service basis may be far distant, but every step in that direction is a step nearer to stability and profitableness in operation and a step farther away from public distrust. Producers who blind themselves to the new era in coal merchandising and continue to foist imperfectly prepared or inferior products upon the market are flirting with disaster.

Long-Face Loader Averages 90 Tons per Man

Loading Unit Stands on Entry While
Huge Scraper, Ingeniously Guided, Gets
Coal at High Speed—Mining System That
Is Safe and Economical Is Developed

By J. H. Edwards

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CERTAIN COAL LOADING machines cannot be demonstrated outside of a mine. In this class is the new Ace loader, a 5-man scraper-type machine that has averaged 450 tons of coal from a long face to a loading platform in an 8-hr. shift. Two machines of this type I recently saw working in Mine A of the Pike County Coal Corporation, Petersburg, Ind.—the company which developed the machine. The visit was unannounced. This made the performance the more impressive. It was not a demonstration carefully staged, but a regular day's work by equipment that is keeping in operation a mine that runs in the face of conditions which have shut down practically every other mine in Indiana.

A general idea of the Ace machine is best gained by reference to Fig. 1. The loading machine proper, (A), is kept on the entry and the coal brought to the machine by a coal gathering bucket, (B), which is propelled along the face by a hoisting engine, (C).

In many features the Ace loader differs from the several loaders which use a hoisting engine to drag a scoop, or scraper. The first and most important difference is its higher capacity. This is made possible by the use of a large bucket in combination with a bucket-dumping platform which has a storage capacity and can, therefore, continue to fill mine cars after the bucket has gone back for another load.

Another distinguishing feature is the ruggedness of the bucket and its ability to tear into and dislodge the standing coal. The design of the bucket is such as to withstand a fall of slate or rock which practically would destroy any machine having a power-driven mechanism within itself.

It is significant that the loader was developed and patented by a coal operator, N. H. McClevey, general manager of the Pike County Coal Corporation. A good deal of money was spent in the company's experimental mine where many types of loading machines and mining systems were given a thorough trial before the Ace loader was conceived and perfected.

An idea of the extent and variety of the work done in the experimental mine can be gained from Fig. 2 which is a reproduction of a section of the engineer's map. This experimental mine is in a corner of the large acreage tapped by Mine A, in which the perfected Ace loaders are now in regular use.

The thickness of the No. 5 Indiana seam in this mine

The headpiece shows the five-track tippie of Mine A of the Pike County Coal Corporation at Petersburg, Ind. The Ace loaders were recently moved here from the experimental mine. This mine is loading 2,500 tons per day.

varies from 7 ft. to 9 ft. and there is no parting of slate or rock to be handled. Overlying the coal is a strata several feet thick of grey slate, above which is a limestone. Below the coal is a hard fire clay containing some pyrite concretions. The average cover is 120 ft., the shaft having a depth of only 105 ft.

The experimental mine was opened several years ago. Entry-driving machines were the first to be tried. These were followed by other loading machines of both the small, light-weight type, and of the large, heavy type. Entries of different widths, and rooms of various widths and lengths were driven, affording opportunities to give each machine a thorough trial, and to determine the action of the roof.

Mr. McClevey stated that, as a result of the early experimentation with the available types of loading machines, the following fundamental conclusion were reached: First, that the problem of handling the roof on a long face was greatly lessened by speed in mining those faces. Second, any combined gathering and loading machine, of desirably high capacity, must necessarily be too large and heavy to move to the coal. Therefore, to insure eight hours of continuous operation the loading unit must be of the semi-portable type and the coal must be brought to the unit where loading can be done over the sides of the cars without uncoupling them.

Keeping these conclusions in mind, also keeping in mind the necessity for simplicity and ruggedness in mine equipment, the Ace loader was built and given an 18-months trial in the experimental mine. The coal-gathering bucket of the loading equipment is the only part exposed to the dangers at the face. This bucket is 10 ft. long, 5 ft. wide and 32 in. high, and weighs,

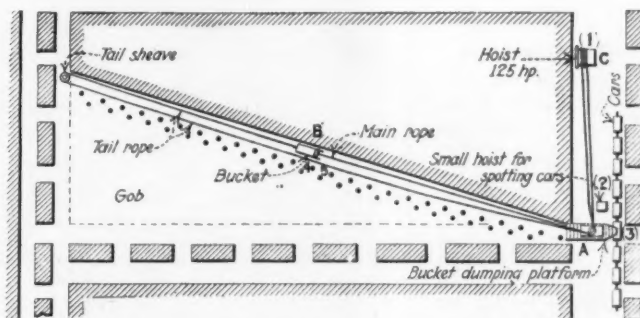


Fig. 1—A Bucket Brings the Coal to the Loader

The loader proper, or so-called bucket-dumping platform (A), stays on the entry. The gathering bucket (B) is pulled by the hoist (C). Positions of the five men composing the operating crew are indicated by the figures (1), (2), (3), (4) and (5).

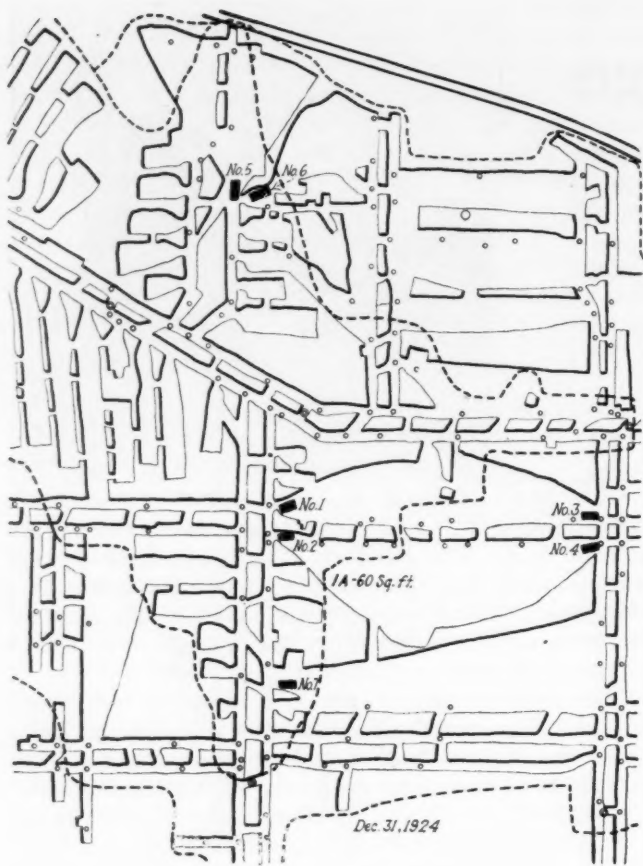


Fig. 2—The Ace Loader Was Developed Here

This experimental mine was shut down April 18, 1925. Many types of loaders were tried before the Ace was perfected. The numbers on the drawing indicate a few of the positions of the dumping platform, while mining the respective faces. The face at No. 7 is 450 ft. long.

5,400 lb. It is merely a box having no cover, no bottom, and no front end. The sides and back end are made of solid plates of $\frac{3}{4}$ -in. steel, and on the bottom of the side plates are steel runners to prevent the bucket from digging into the mine bottom. Two special features of the bucket are the adjustable main- and tail-rope attachments, and the chrome, nickel-steel, digging teeth which are fastened to the front ends of the bucket side-plates. These features are shown in the sketch, Fig. 3.

The exact line of travel of the bucket is governed by the position of the rope-clevis hitching. By attaching the main rope to the hole near one side, the bucket can be made to run 35 ft. out of line on a 350-ft. face. This

feature eliminates the necessity of frequently changing the position of the tail rope sheave, and affords a means of governing the path of the bucket.

The double-drum, friction-clutch, 125-hp., electric hoist which drags the bucket is of a special design in that the customary bed plate is eliminated and two side frames used instead, these frames being tied together by steel cross members and bolts. This design facilitates the handling and erecting of the hoist in the mine. The gear ratio from the motor to the drums is such as to move the bucket toward the loading machine at a speed of 350 ft. per minute and away from the machine at a speed of 500 ft. per minute. The size of the main rope is 1 in. and the tail rope $\frac{3}{4}$ -in.

The loading machine proper, which Mr. McClevey chooses to call the "coal-gathering-bucket dumping platform," is illustrated in Fig. 4. An apron conveyor, operating along the bottom of the platform and up over an adjustable loading boom, carries the coal into the mine car. The bucket-receiving end of the platform is a short, sloping chute with flared sides for guiding the bucket into the platform. The coal is left on the conveyor as the bucket is pulled out of the machine.

The machine headframe, on which is mounted two

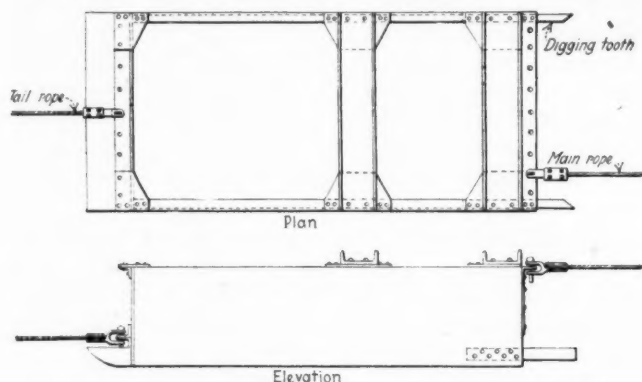


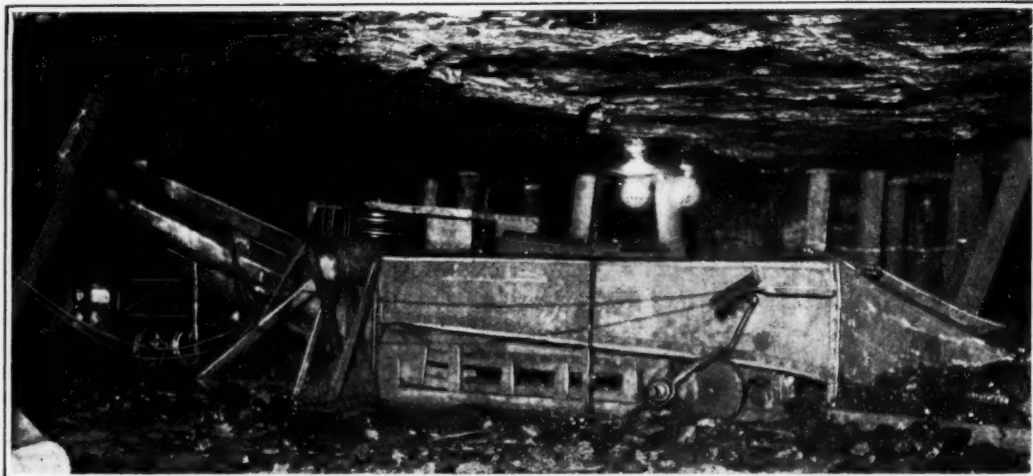
Fig. 3—A Gathering Bucket "Built Like a Battleship"

The sides of the bucket are of solid $\frac{3}{4}$ -in. steel plates. The bucket is 10 ft. long, 5 ft. wide and 32 in. high, and weighs 5,400 lb. Two important features of the design are the chrome, nickel-steel, digging teeth and the adjustable rope attachments by which the bucket is guided in its travel.

pairs of 32-in. sheaves, is designed to withstand the greatest strains which can be imposed by the 125-hp. hoist. Only the pair of sheaves on the side at which coal is being loaded are used at one time. A 15-hp. motor drives the apron conveyor which is the only moving part of the loading platform. A clutch is inter-

**FIG. 4
Loading Unit**

One of the two machines which was seen in operation in the 2,500-ton mine of the Pike County Coal Corporation. During the ten days previous to the taking of this photograph this machine loaded an average of 452 tons per day. The mine car loading boom is 34 in. wide.



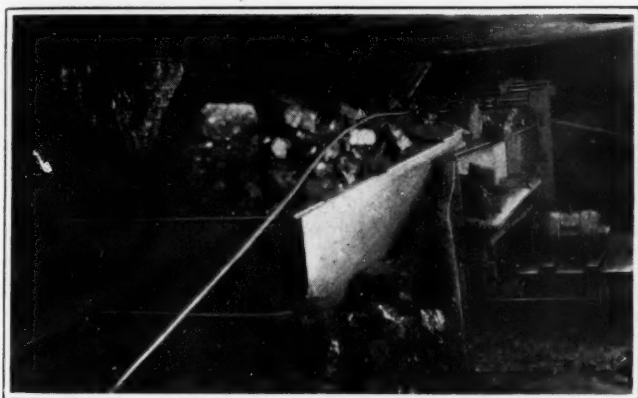


Fig. 5—Bucket Delivering Its Load to the Platform

In this case the bucket cannot be pulled any further onto the platform until some of the coal already on it is loaded into the cars. This, however, need not delay the bucket. It will be pulled back leaving a part of its load on the chute leading to the platform. This coal will be pushed on to the conveyor by the next bucket load.

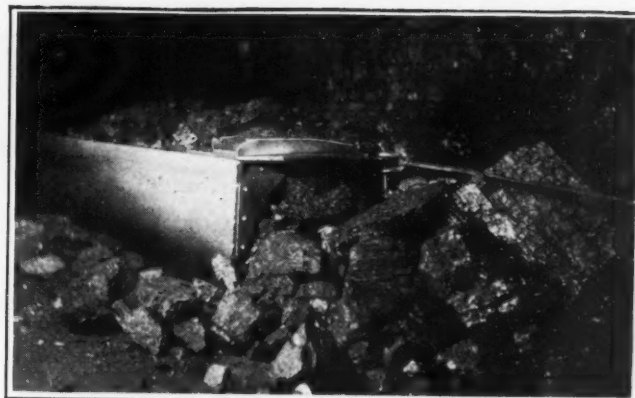


Fig. 6—Moving Nearly Ten Tons of Coal

The level-full capacity of the bucket is about 3 tons, however, its average working capacity is much greater because considerable coal is carried on top and in front. Narrow skids or runners extending the length of each side plate prevent the bucket from digging into the bottom. The loaded bucket travels 350 ft. per minute. Returning empty its speed is 500 ft. per minute.

posed between the motor and conveyor. By means of this clutch the conveyor is stopped after each mine car is filled, and again started after the trip has been moved forward one car length.

Action of the coal-gathering buckets along the face is indicated by Figs. 6 and 7. The first picture shows how the coal heaps up in this scoop and how a certain amount is dragged in front. The photograph, Fig. 7, was taken to illustrate how the bucket tears into a standing shot. A few seconds before this photograph was made, several tons of coal fell into the bucket, and a few seconds later it was practically covered by falling coal shown in the picture as standing at its front corner on the far side. This coal was brought down by the digging action of the tooth in the rib. The clevis attaching the main rope to the bucket is, in this case, set in a hole near one end of the bar. This position causes the bucket to swing over and cut into the rib.

Changing the clevis to another position is done by one of the two men who are stationed along the face. These men (positions 4 and 5 in Fig. 1) ordinarily stay within the protection of the posts at a point about opposite the place where the bucket is picking up its loads. One of these men signals the hoist operator by means of a

portable, push-button station, and the other man changes the position of the clevis during the few seconds that the bucket is stopped for that purpose by the signal man.

The Ace loader is operated by a crew of five men, including the two mentioned. In addition to the two, a man stationed at (1) operates the main hoist, another stationed at (2) operates the trip-moving hoist and the conveyor clutch of the dumping platform, and another at (3) spots and trims the cars.

The capacity of the loader depends upon the amount of coal that can be shot down at once on the long-wall or slab face. The problem is to select a length of face that can be cleaned up easily in an 8-hr. shift or in two shifts. I saw a number of cars loaded to an average of 2.25 tons in 35 sec. each, counting the time required to spot the car. At this rate the machine could load 1,800 tons in 8 hr. But the Simplex Loading Machine Co. which manufactures the Ace rates the equipment at only 1,200 tons in 8 hr. This rate could no doubt be reached in high coal with faces of the proper length.

In less than a month from the time the experimental mine was closed two of the four machines had been put to work in Mine A and the rest were on their way. One



**FIG. 7
Tearing Down
The Coal**

There is no hesitation when the bucket tears into the standing coal. The path of the bucket is governed by the position of the rope clevis. In this case, it is set well toward one side causing the bucket to be diverted toward the opposite side. A few seconds after the photograph was made the bucket was practically covered by falling coal, pulling itself out easily.

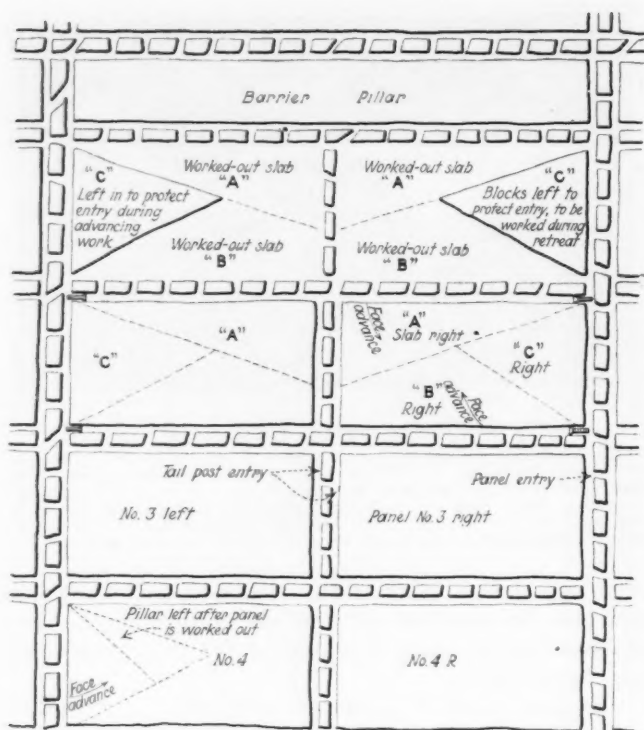


Fig. 8—System to Be Followed in the Producing Mine

This advancing-panel, protected-retreat system was decided upon as a result of the different methods tried in the experimental mine. The management is confident that it will work out as outlined. The triangular pillars to be left on each side will afford ample protection to the panel entry during the advance.

of the two had, in ten days, averaged 450 tons per day and on one day loaded 640 tons. In two consecutive days during this period, 506 and 552 tons were loaded. This was done on a 325-ft. face which was cleaned up easily in one shift. The coal is undercut with shortwall machines having 7½-ft. cutter bars. The shot holes are drilled 12 ft. apart and the whole face shot at once by electricity from the direct current trolley line. Very light charges are used, the amount of explosive being just enough to snub the coal, leaving most of it standing.

The working face is protected by a line of wood props

kept within about 15 ft. of the face. Ordinarily no attempt is made to recover the timbers. However, in one place, about 150 posts were recovered in an attempt to produce a break in the roof.

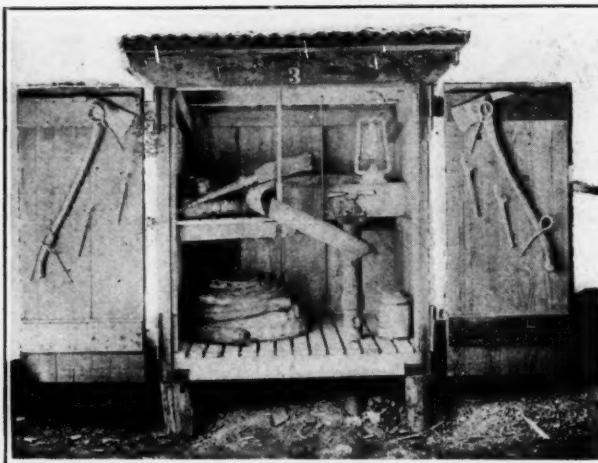
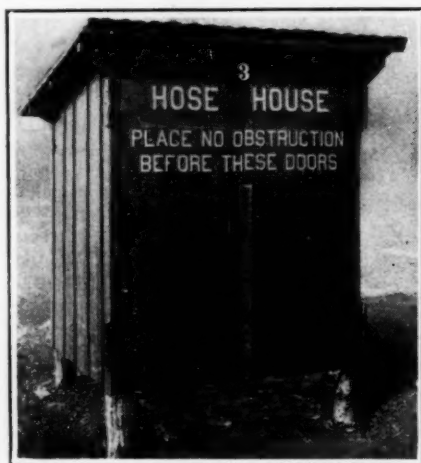
The mine of the Pike County Coal Corporation is being developed for the advancing-panel, protected-retreat system of mining, shown in Fig. 8. The panel entry is protected on the advance by the triangular pillars left on each side. On the retreat, a part of each triangular pillar will be drawn. The system should result in a recovery of about 85 per cent of the coal. The longest face with this system will be about 450 ft., which, when undercut with a machine having a 7½-ft. cutter bar, will yield more than 800 tons per cut.

The operator of the bucket-moving hoist is paid \$12 for an 8-hr. day, and the other four men receive \$7.50 per day. This is in conformity with an agreement made with the local union.

A feature of the Ace loader is the protection afforded to the men and the equipment. All of the crew except the clevis changer are in positions which can be amply protected by timber, and it is only during a comparatively small percentage of the time that even he is compelled to work under unsupported roof. It is significant that during the eighteen months that the loaders have been used not a single major accident has occurred.

Up to date, the bucket has been caught fifteen times under heavy falls of slate and in each case has been pulled out from under them by the hoist. Usually the heavy falls are moved into the gob by the bucket, although, in some instances, the tail rope is disconnected from the bucket and tied around a large chunk and a temporary tail sheave is set so as to drag the chunk into the gob. Pieces weighing as much as twenty-five tons have been moved in this way.

Ruggedness, simplicity, high capacity, and the ability to load large lumps are characteristics of the Ace loader. Seeing the bucket tearing into standing coal and later carrying its load of three to five tons at a rate of 350 ft. per minute causes one to marvel at the tenacity with which a scoop in the hands of "puny man" has clung to the job of loading a product so heavy and bulky as coal.



Hose House Aids in Guarding Against Fire at Mine Buildings

It is necessary, especially at old mine plants where many of the buildings are of dried-out wood, to make provision for fighting fire. At the No. 4 mine of the Consolidation Coal Co., Eckhart, Md., sundry fire fighting appurtenances are kept readily available. These are in a hose house, as shown in one of the illustrations. The type of construction used in building the hose house is pictured in the other view.

Machine Drills and Skilled Shooting Cut Costs

Less Slack Is Made, Roof Is Safer, Timbering Costs Are Lowered, Miners Are Spared a Grueling Task and Quantity of Powder Used Is Reduced Considerably

By F. E. Taylor

St. Louis, Mo.

ORDINARILY the problem of drilling and shooting coal is accorded scant consideration. If this problem were attacked and solved in the proper manner a much larger proportion of lump coal unquestionably could be obtained for the market. The first step in this direction would be for the coal operators to take charge of all drilling and shooting operations. When this is done these operations can be placed in the hands of trained specialists. Today only men experienced in their use are allowed to operate cutting and loading machines, and it is logical to employ only men who have been properly schooled in their duties for the equally important operation of shooting down the coal.

Of course shooting has long been regarded as the miner's job, and under present arrangements the miner not only drills the shotholes but loads and fires them as well, furnishing the explosive with which they are charged. For various reasons, however, this work should be under the direct supervision of the mine operator. If this plan were adopted he would have only trained men in charge of these various mining processes, the quantity of explosive used in any particular hole would be under accurate control, all holes would be placed to the best advantage and drilled to the proper depth.

It is certain that all this would result in the production of a larger percentage of lump coal with a corresponding decrease in the proportion of screenings. The number of accidents resulting from missed holes

and blown-out shots would also be reduced, as the men handling explosives would soon become experts. With power drills the shotholes can be placed closer to the roof than with hand augers. This results in better shooting and fewer roof fractures. These latter in many mines are the cause of much danger and expense. Better roof also means less timber and deadwork.

It might appear that transferring the burden of shooting from the miner to the operator would greatly increase the cost of production. The added expense, if any, is, however, so small as to add little to the cost. Furthermore, this practice increases the selling realization, because a bigger proportion of large-sized coal is produced at approximately the same total expense.

A study of the reports of the departments of mines of the various coal-producing states, during the past three years will reveal the fact that both the percentage of slack and the consumption of explosives per ton produced have increased. These reports show that the cost of explosives per ton of coal mined ranges from 0.027c. to as high as 7c. If the operator did the blasting on either a day wage or a tonnage basis the cost for explosives, in most cases, could be lowered from 30 to 50 per cent. If the miner could be induced to permit the present cost of his explosives to be deducted from his wages, the operator, as a rule, could do this work without incurring additional expense. Even if this alone were not enough to cover the expense to the operating company, the miner ought to be willing to



Saving Money

Many mechanical processes in coal mining attain their greatest utility only where conditions are difficult. Hand drilling is most laborious in low coal and close quarters, but these very conditions act to the advantage of the power drill. Drills in coal much lower than this have effected large savings to the mine owner. This has run up to 50c. a ton when combined with undercutting and proper supervision.

concede a certain margin of his tonnage rate in return for being relieved from the grueling work of drilling and the time lost in charging and shooting, thus being enabled to devote more time to loading.

One of the many mines employing this method of bringing down the coal obtains the results set forth in the following summary. This particular operation is located in Missouri, in a union field and pays the full union scale for all classes of work.

Summary of Conditions and Results

Width of room	42 ft.
Average thickness of coal	46 in.
Depth of undercut	4½ ft.
Number of holes drilled in each room	3
Depth of holes	6 ft.
Diameter of holes	2½ in.
Loading of rib holes	20 in. or 2½ lb.
Loading of center holes	10 in. or 1½ lb.
Total powder per room	50 in. or 6½ lb.
Kind of powder used	Size F, black, Du Pont
Cost of powder, per pound	8.28c.
Av. No. places drilled, loaded and fired by one man	7
Av. No. holes drilled, loaded and fired	21
Actual time consumed in drilling	5 hr.
Labor cost per day, drilling, loading, shooting	\$7.50
Tons of coal produced per hole	9.66
Cost of drilling per hole	22.32c.
Cost of drilling per ton of coal produced	2.31c.
Cost of powder per room	51½c.
Cost of powder per ton	1.785c.
Cost of loading holes and shooting per day (3 hr. @ \$7.50 per day)	\$2.8125
Cost of loading holes and shooting per hole	13.39c.
Cost of loading holes and shooting per ton	1.386c.
Total cost, drilling, powder, loading and shooting per ton of coal produced	5.48c.

In the above tabulation the cost of current necessary to operate the drill, also the drill upkeep, has not been taken into account. Inasmuch as the machine employed uses a fractional-horsepower motor and, probably, does not operate continuously for more than about 4 hr. per shift, the current consumption probably does not exceed 3c. per day. When figured down to the cost per ton this represents a fraction so small as to be negligible. Repairs to this machine also are extremely small.

At this mine loading of coal into cars is performed at the union rate of 87c. per ton. Under the old arrangement the miners shot off the solid furnishing their

own tools and powder and were paid \$1.25 per ton. Against this difference of 38c. per ton must be placed the cost of undercutting and that of bringing down the coal as already tabulated. Appreciable savings in timbering are made, however, by the method now used, as the present shooting does not jar the roof sufficiently to cause it to break. It, therefore, is estimated that, all things considered, undercutting and placing the shooting under the supervision of the company is responsible for a total actual saving of at least 50c. per ton.

ASH CONTENT DECREASED

Nor is this all. Under the old method the proportion of screenings—the grade that almost always sells for less than the cost of production and must, consequently, be “carried” by the larger sizes—amounted to 28 per cent. Under present methods the screenings run from 12 to 14 per cent of the mine output or a little less than one-half their former proportion. Furthermore, the ash content of the mine product has been decreased and the heat content correspondingly increased. This renders the entire product more marketable. The realization for the mine output thus is raised appreciably.

This mine is now operating under the Jacksonville agreement, a local contract with the union covering the detail of drilling, loading and shooting. The miners appear as well satisfied as the company with the present arrangement. In conversation many of them say that they would not think of going back to the old hand methods. Under the present arrangement they can make more money than formerly and are now able to keep their turn and produce cleaner coal with less real work.

“Whatever man has done man may do.” If such results as those here set forth can be obtained by one company it would appear high time that the other coal producers devoted some time and thought to the adoption of machine drilling.

Test Fires Show Effectiveness of Rock Dust Against Flame in Coal Mines



Coal Dust Burns Fiercely

THE Phelps Dodge Corporation of Dawson, N. M., is thorough in its rock dusting of coal mines to reduce explosion hazards. It now follows the practice of subjecting its ordinary roof and rib dusts to fire tests to determine exactly how they will perform when subjected to flame. The photograph on one side shows the result of blowing pure coal dust into a drum of burning waste. The conflagration resembles that of a tank of oil afire. Flames run 50 ft. in air.

On the other side is a photograph of the low column of dusty, flameless smoke that rose from the drum into which a cubic foot of dust from a mine roadway was blown by a cement projector. The motor road from which this sample had been taken had been dusted according to the company's standard method. Of this dust, that part coarser than 40-mesh contained 92.5 per cent ash, that between 40- and 100-mesh, 97.5 per cent ash and that finer than 100-mesh, 66.4 per cent ash.

Samples are taken from every part of the company's several mines at 60-day intervals and tested in this way, either in a waste fire or through an electric arc.



Rock Dust Prevents Fire

New Entry System Aids Anthracite Mining

Susquehanna Collieries Co. Now Drives Gangways in Shale Beneath Steeply Pitching and Badly Crushed Lykens Valley Beds—With Entries in Coal, Cost Was Excessive

By Dever C. Ashmead
Anthracite Mining Engineer, Bureau of Mines,
Wilkes-Barre, Pa.

IN THE Lykens Valley district, as in all the Pennsylvania anthracite regions, where the measures pitch steeply, the cost of maintaining gangways and headings through the coal is excessive. There is a tendency for roof movements to crush the timbering and loose slabs of rock or coal persist in sliding into the gangways, crushing all before them. As a result, it is not only expensive but almost impossible to maintain a coal gangway of any great length, or for any extended period of time, and other methods had to be devised that would permit the economical mining of the coal on the steep pitches.

Until the last few years, the operations of the Susquehanna Collieries Co. in the Lykens district were conducted with little, if any, profit because of the exceedingly high maintenance charges. In recent years, however, new methods of working the measures have been evolved that have proved remunerative. A description of these methods may be of interest to engineers in other parts of the anthracite region, where similar conditions are encountered.

The coal beds in the Lykens Valley lie in a great V-shaped basin as is shown in Fig. 1, which represents a cross section at the Short Mountain Colliery. The pitches are sometimes as steep as 90 deg. As mining progresses and the workings become deeper, the pressure on the beds becomes greater. The configuration of the coal measures indicates that at some time in the geological history of the district a great thrust folded, bent and distorted the measures on the south side of the basin and caused those on the north side to slide on each other, resulting in a fault. The coal beds on the south side of the basin were broken up by these move-

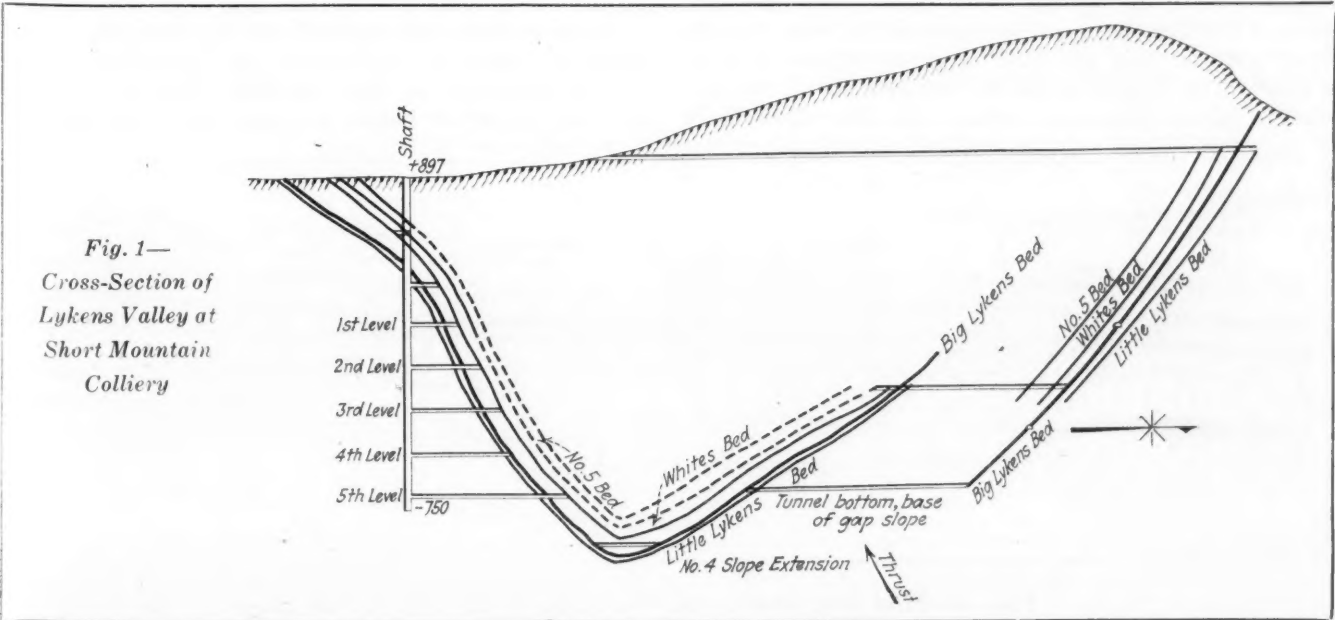
ments, producing what is known as free-running coal. An analysis, made at the Pittsburgh Station of the Bureau of Mines, of a sample of coal taken in the Big Lykens bed in the Short Mountain Colliery is as follows:

	Proximate Analysis		
	As Received Per Cent	Moisture Free Per Cent	Moisture and Ash Free Per Cent
Moisture.....	1.1		
Volatile matter.....	9.6	9.7	10.8
Fixed carbon.....	77.5	80.4	89.2
Ash.....	9.8	9.9
	100.	100.	100.
Ultimate Analysis			
Hydrogen.....	3.2	3.1	3.5
Carbon.....	82.7	83.6	92.8
Nitrogen.....	1.1	1.1	1.2
Oxygen.....	2.5	1.6	1.7
Sulphur.....	0.7	0.7	0.8
Ash.....	9.8	9.9
	100.	100.	100.

The coal on the north side of the basin in many places has been crushed to No. 2 buckwheat and smaller. So far it has proved to be unworkable, but the company is continuing prospecting in this district in the hope of finding workable coal.

It was almost impossible to maintain gangways driven in the crushed coal on the south side of the basin. For many years a crew of 175 men was employed on the night shift to do nothing but replace crushed timbers and remove falls. Even though the timbers in the gangways were 15 in. in diameter and placed skin to skin, the cost of their replacement maintenance became prohibitive and other methods had to be devised. It practically was impossible to keep open more than 2,000 ft. of coal gangway on any level at any one time. As it was necessary to drive the gangways to the limits of the property before mining the coal, and inasmuch as the property is about two miles in length, it

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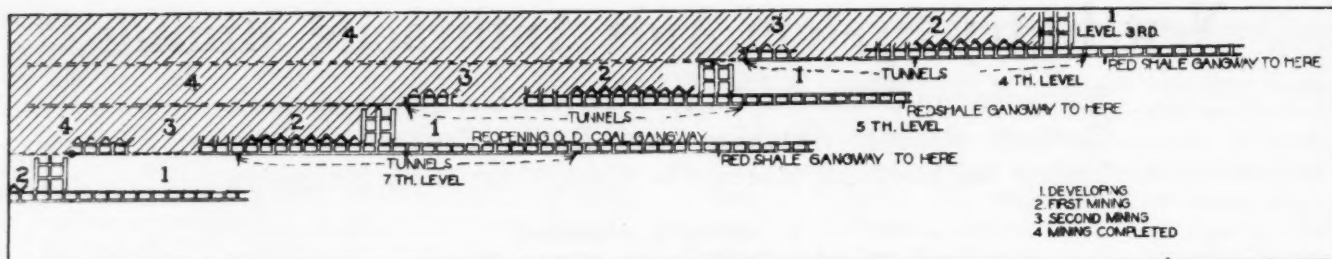


Fig. 2—Ideal Elevation Showing Method of Working as Described in This Article. The Tunnels Are 800 Ft. Apart

can be readily seen that it was out of the question to produce coal economically.

A remedy for this condition was obtained by removing the gangways from the coal and driving them in the underlying red Mauch Chunk shales. In fact, they are driven almost at the boundary between the red shales and the Pocono sand stone. Owing to the movement of the strata, caused by the mining of the coal and because of the soft, stratified character of the shales, the gangways are driven at a distance of from 200 to 250 ft. beyond the foot wall of the coal bed. Even under these conditions when there is any considerable movement of the strata above the coal beds, slabs of red shale are forced out of place into the gangways and have to be removed.

Some timbering is required in these gangways because of the slabbing character of the shales, but it is decidedly light as compared to that used in the gangways formerly driven within the coal beds. Little maintenance expense is now incurred. A timber gang, consisting of only three men, is sufficient for a gangway, 8,400 ft. long. The probable life of timbers in these red shale gangways is two years.

From the gangways in the red shale, a tunnel is driven across to the coal measures every 800 ft. From the ends of these tunnels counter gangways are driven in the coal until they meet. This is shown in Fig. 2, which represents an elevation of the workings. With this method there is a maximum length of only 800 ft. of gangway to be maintained in the coal bed on each level, compared to the thousands of feet required with the old scheme of mining. Furthermore, this 800 ft. of gangway has to be maintained for only a comparatively short period—at the longest, one year.

Again referring to Fig. 2, it will be seen that this method divides the workings into panels each 800 ft. long, and that only one panel is mined on each level at a time. The operations on the different levels are conducted in the following order: On the third level,

while the panel farthest away from the shaft is being developed, that next to it is being mined; simultaneously the monkey and chain pillars in the next section are being second-mined. The rest of the panels on this level have been mined and abandoned.

On the fourth level, the panel immediately below the one on the third level, that is undergoing second mining, is being developed, the next panel nearer the shaft is being mined, while the next panel is being second-mined. These last two panels are below the worked-out area on the third level. A similar order is employed on the fifth and seventh levels.

About 250 tons of coal are produced daily from each of the panels, and 450 tons are obtained from other sources, making a total production at the Short Mountain Colliery of about 1,250 tons per day. Without the use of this system, the production would only be about 700 tons per day with the same working force.

For ventilation, a monkey gangway is driven 30 ft. above each gangway in the coal. Chutes are driven up through the intervening pillar at 60-ft. intervals, and a manway is put up to the monkey between every other chute. When the gangways reach the end of the panel farthest from the shaft, three narrow breasts, about 15 ft. wide, are driven up on 60-ft. centers to the counter above. These are shown in Fig. 2. When they approach the upper level a hole is broken through to permit any water that may have accumulated at this point to drain off and to aid ventilation.

When the break to the counter above has been completed, slanting chutes are started from the monkey gangway at two of the coal chutes about three-quarters of the way along the panel. These are driven on an angle of about 45 deg. and continued until they meet. As the coal is shot down from above the slant chutes, it starts to run and is pulled through the coal chutes. When an indication appears that the coal flow is stopping, another pair of slant chutes is started. After all the coal above the slanting chutes has been removed,

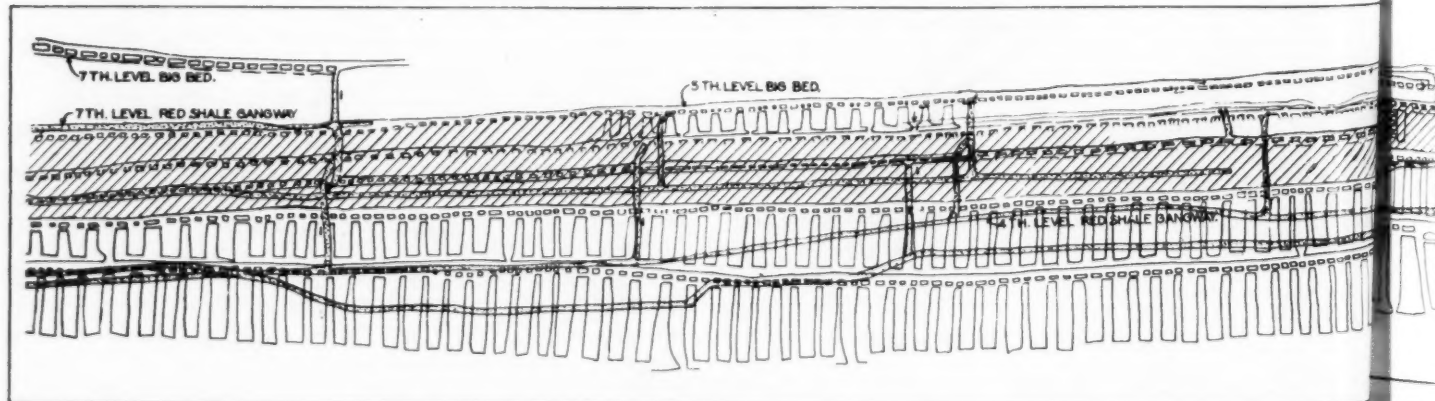


Fig. 4—This Map Shows the Workings in the South Side Basin at the Short Mountain Colliery

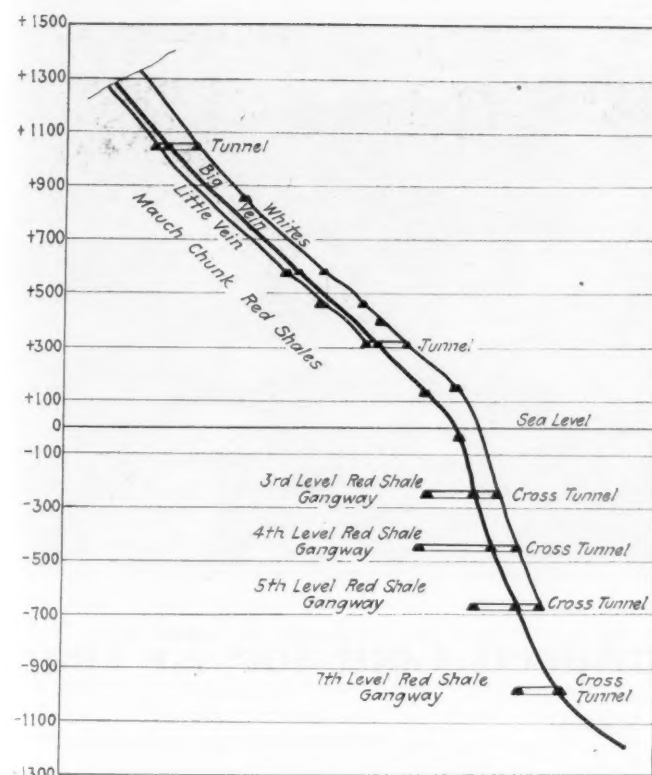


Fig. 3—Cross-Section Showing Location of Gangways Driven in Red Shale Under the Coal

the triangular pillars and the chain pillars between the coal heading and the monkey are second-mined.

In driving the red shale gangways, necessary ventilation is furnished by compressed air or by booster fans fitted with canvas pipes. More elaborate provisions are required for the ventilation of the panels. Cross tunnels have been driven from the red shale gangways not only to the Big Bed, but further on to the Whites Bed on the third level, and a gangway has been driven in this measure which acts as a return airway. Fresh air comes in from the red shale gangway, passes through the cross tunnels to the panel in the coal gangway, traverses the length of this passage, then travels up through a crosscut to the monkey heading, back through this passage to the old workings in the adjoining panel, then through these old workings to the outside. When the rock tunnel further along the rock gangway on the third level is completed, the last rock tunnel is closed and the air passes through this new opening.

To ventilate the panels below the third level, breasts are made in the Big Bed to the third level, or to the old workings above as has been described. This is

shown in Fig. 3, which is an enlarged cross-section of part of the measures. It is also shown in elevation in Fig. 2. The final idea is to have the gangway in the Mauch Chunk red shales on the third level become the return airway after the mining has been completed on this level.

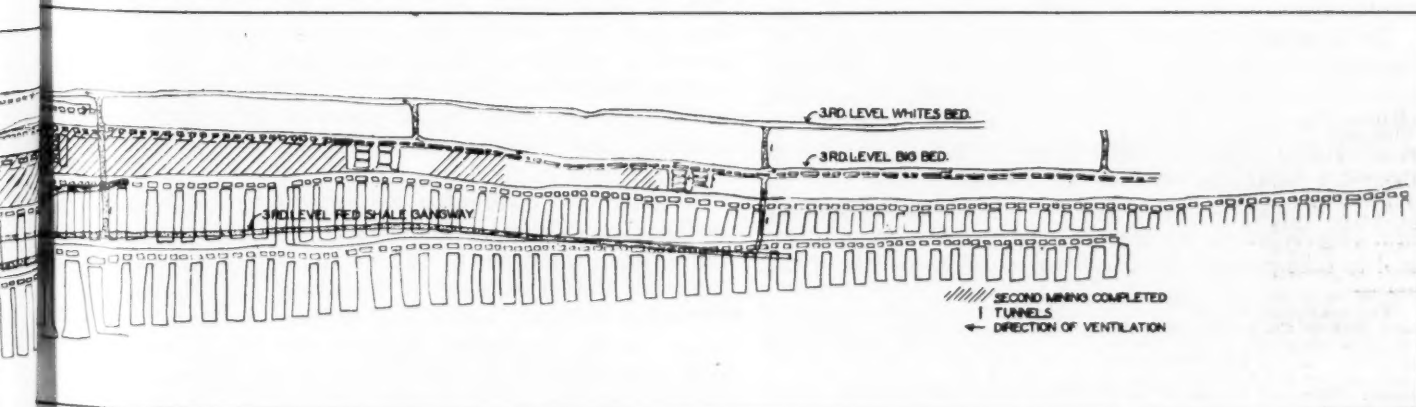
The levels have a difference in vertical elevation of about 220 ft. between them. The third, fourth, fifth and seventh levels are now being worked and the ninth is being started. The sixth and eighth levels have been abandoned because the differences in elevations between the fifth, sixth and seventh, and between the seventh, eighth and ninth levels were too small. The coal that ordinarily would have been produced from them is now being, or will be mined from the seventh and ninth levels.

Although the cost of driving the rock gangways is three times that of driving those in the coal beds themselves, their maintenance cost is only about one-sixth as great. The red shale gangways are 10 ft. wide and 7 ft. off the rail. They can be driven at the rate of about 1,200 ft. per year, the cost being approximately \$68 per lineal yard. They are driven on contract.

At the Williamstown Colliery the rock gangways are driven in a bed of conglomerate about 125 ft. thick, that lies nearer the bottom bed of coal than do the red shales. This is more expensive than driving in the red Mauch Chunk formation, but it reduces the maintenance charges still further, as no timbering is required. It also shortens the length of the cross tunnels from the rock gangway to the coal beds and this counterbalances the higher cost per yard of driving.

With the old system of breasts extending upward from gangways in the coal, it was not always possible to drive these openings the full distance to the level above. The coal would often begin to run when the breasts had advanced only part way, and stop running after a short time with a resulting loss of the coal left above them. With the present method of driving slanting chutes at the bottom of the pillars, the coal usually runs for the full distance to the upper level and the full contents of a panel can be removed.

By means of this system, maintenance of gangways has been reduced to a minimum and no difficulty is encountered in keeping these passages open all the time. It is also possible to get a much higher recovery than was obtainable with the old breast-and-pillar system of mining. The sections are open for only about a year at a time, thus making the work in each, as well as that in the panels, more rapid, which is advantageous all around.



Colliery of the Susquehanna Collieries Co. Where the New Gangway Plan was Perfected



Vancouver Island Has Produced Coal for 75 Years

By F. H. Mason

Victoria, B. C.

VANCOUVER ISLAND is playing a considerable part in the coal industry of western Canada. The region now employs more than 5,000 men and, with its present development, is capable of producing well over a million tons a year. The history of this field runs far back into the early years of the last century. What its future is, coal men of the province are beginning to speculate, for recent reports indicate the available deposits are considerably smaller than had been supposed. However, there is coal enough for at least 50 years of operation at the present rate of production.

Coal appears first to have been discovered on Vancouver Island at Suquash, on the northeast coast, by an Indian, and the event was recorded by W. F. Tolmie, of the Hudson's Bay Co., in 1835, but though desultory prospecting was undertaken from time to time, no important operations were started at this point until 1907, when the Pacific Coast Coal Co. acquired a large area of coal land and sank a 1,200-ft. slope on a 5-ft. seam. Another slope, 2,000 ft. long, was sunk from the bottom of a 170-ft. shaft and a considerable body of coal was mined out, but the operations were not financially successful. The mine was closed in 1920 and has not been opened since.

More favorably situated deposits were discovered at Nanaimo in 1850 by J. W. McKay, and in 1852 the property was taken over by the Hudson's Bay Co., which imposed a royalty of 2s., 6d. per ton on all coal mined. A facsimile reproduction of the letter from James Douglas, chief factor for the Hudson's Bay Co., to Joseph McKay, a factor for the company, instructing him to proceed to Nanaimo—then spelled "Nanyimo"—and to take possession of the coal areas on behalf of the

company, appears in the annual report of the Minister of Mines for British Columbia, for 1923.

At this time—1852—coal was selling for \$28 per ton in San Francisco, and the company evidently foresaw the possibilities of a lucrative business in shipping coal to that port. The Nanaimo Coal Mining Co., a subsidiary of the Hudson's Bay Co., was formed, and, either directly or by licenses granted to others, operated the mines until 1861, when the property was sold to the Vancouver Coal & Land Co., which, in turn, sold it to the Western Fuel Co.—now the Western Fuel Corporation of Canada—in 1902. In 1923, this company was the largest producer of coal on Vancouver Island.

Operations in the Comox field, which has proved to be by far the most profitable field on the island, were commenced in 1875 by the Baynes Sound colliery, and much exploration was undertaken, though little productive mining was done until 1888, when the Dunsmuir Syndicate opened the Union colliery and built a railway to Union Bay, 11 miles from the mine, thus giving an outlet for the coal.

PIONEER OPERATIONS LUCRATIVE

The Wellington Coal Co., which started mining operations in the Nanaimo field in 1871, extended its operations into the Comox field, where it purchased the Extension colliery of three mines and the Union colliery of four mines. The company carried on a lucrative business, and during the 39 years of its operation it is said to have disbursed among its shareholders sixteen million dollars in dividends.

In 1910, the Wellington company sold its holdings to Canadian Collieries (Dunsmuir), Ltd., which, at the same time, acquired a number of other properties. Canadian Collieries now is operating the Wellington Extension colliery, consisting of Nos. 1, 2, 3 and 6 mines, in the Cranberry district; and the Comox colliery, consisting of Nos. 4, 5 and 6 mines, in the Comox district; and No. 5 South Wellington mine.

The Granby Consolidated Mining, Smelting & Power Co., harassed from the lack of a regular supply of

The headpiece shows the Granby Consolidated Mining, Smelting and Power Co.'s Cassidy colliery and its buildings. The main slope is obscured in the picture by the tree in the center foreground. In the left foreground is the open top of the air intake and at the right of the tree is the top of the manway with its steps. The coal is hauled to the main tipple and washery beside the power plant at the left. Buildings at the right include mine rescue station, offices, bath houses and the large apartment house for unmarried men. Blacksmith and repair shops are in the center background.

coke at its smelter by strikes and lock-outs at the Vancouver Island coal mines, decided to enter into the coal business, and, in 1916, it acquired the Cassidy coal areas, near Nanaimo, where it equipped a colliery and built a model village for the employees. The village is particularly creditable to the company, some of the streets of which have more the appearance of a new real-estate tract than a coal-mining settlement.

The company began to produce coal in 1918, the output for that year being 17,000 tons, which was increased year by year until it reached a production of 228,534 tons in 1923, an output that far exceeded the needs of the smelter and power requirements at the colliery, and left more than 100,000 tons for sale in British Columbia and Puget Sound ports.

The latest concern to enter the Island coal field was the East Wellington Coal Co. which acquired and reopened the East Wellington mine in 1923, and made an initial output of 85,938 tons during that year.

The coal measures of Vancouver Island are of Cretaceous age. The coal seams are of irregular thickness, sometimes swelling to large proportions and sometimes pinching down so thin that they cannot profitably be worked. The early investigators, whose knowledge of coal measures had been gained chiefly from a study of the more regular measures of Carboniferous age in Eastern Canada, were led to believe that the coal reserve on Vancouver Island was far in excess of what development has proved it to be.

BAD FAULTS MAKE MINING COSTLY

The seams on Vancouver Island often are badly faulted, and this, together with their irregular thickness, makes mining costly, and exploration by diamond drilling—the cheapest form of exploration, where it is possible to use such a drill—practically valueless, on account of the suddenness of the swellings and pinches. These disadvantages, together with the high cost of labor, the irregularity of the demand for the output, and the greater depths from which coal has had to be mined in recent years, account for the high cost of the coal. Still, despite these disadvantages, up to the end of 1923 southern Vancouver Island has produced more than 41,000,000 tons of coal, nearly 27,000,000 tons of which has been mined since the beginning of this century.

The following companies have been the principal producers since the beginning of the century up to the end of 1923. (The figures are given in round numbers, because some records of production appear to be missing):

Canadian Collieries (Dunsmuir).....	9,077,000 tons
Western Fuel Corporation of Canada and previous organizations of the same....	8,088,000 tons
Wellington Collieries	6,072,000 tons
Pacific Coast Coal Co.....	1,510,000 tons
Granby Consolidated M. S. & P. Co.....	1,056,000 tons
Vancouver-Nanaimo Coal Co.....	647,700 tons
Nanoose Coal Co.....	346,700 tons

In 1923 the industry gave direct employment to 5,185 men, of which 567 were Asiatics. The number of Asiatics employed has been reduced considerably during recent years.

With regard to the future of the industry, no little consternation was caused by a report, entitled "The Coal Resources of Southern Vancouver Island," by the late J. D. MacKenzie. A number of copies were issued in mimeographed form by the Canadian Geological Survey in June, 1923, because the estimate was so much



Model Town in Vancouver Coal Field

These are some of the houses for employees built by the Granby company in the neat town of Cassidy. The colliery at Cassidy is the newest on Vancouver Island and is now the third largest producer in that coal field.

less than that made by previous investigators, and also because MacKenzie was generally recognized as a careful and thorough observer.

He estimated the actual reserve in the Comox and Nanaimo areas in seams thicker than 3 ft. and at depths less than 2,000 ft. to be 52,970,000 tons, the probable reserve to be 106,220,000, and the possible reserve to be 313,230,000. Furthermore, he pointed out that this was an estimate of the coal in the ground, which is a total quite different from the tonnage that can be raised in a salable condition.

After enumerating the many causes of loss in coal mining in general and in mining on Vancouver Island in particular, he stated: "It is no exaggeration to state that, over considerable areas of some Vancouver Island mines, barely 50 per cent of the coal actually in the ground has been extracted because of conditions quite beyond the control of the operators."

If MacKenzie's estimate is accurate, and assuming that all the probable reserve is developed into actual reserve, at the present rate of output the coal-mining industry of Vancouver Island would appear to have a probable life of between 50 and 70 more years. The future of the industry after that will depend upon how much of the possible reserve can be developed.



Camera Did Freak Trick Here

After it had "looked" down this aerial tramway of the Winchester Coal Co., at Prestonburg, Ky., for 35 sec. of a 45-sec. exposure, the camera was blown off a beam and fell into a bin far below. Ten minutes later J. H. Edwards, associate editor of this magazine, dug it out of the coal which practically covered it, closed the shutter, which had stood open all the while—and this picture was the astonishing result.



News Of the Industry



Miner Killed and Police Beaten in Pitched Battle at Nova Scotia Mine

As the result of a pitched battle June 11 at New Waterford, N. S., between striking coal miners and British Empire Steel Corporation police for possession of the company's power plant, one striking miner is dead, another's neck is broken, a third is shot through the stomach and not expected to live, seven strike policemen are in the hospital, seriously injured, and thirty more are suffering from bruises and contusions. The strikers were victorious.

The miners have been on strike over three months. Wage negotiations began in December last, the steel corporation insisting on a 10 per cent cut while the officials of District 26, United Mine Workers, stood firm against a reduction unless an impartial investigation revealed that a reduction was justified. The Labor Department of the federal government established a Board of Conciliation to make an inquiry, but without any practical result. At the request of the union officials, James Murdock, Canadian Minister of Labor, agreed to act as mediator, but J. E. McLurg, vice-president of the British Empire Steel Corporation, rejected the offer on June 1. Three days later the union officials called out the maintenance men at the mines.

On the night of June 10 the company spirited thirty maintenance men into the plant to start it up again and generate power to supply the pumps in the mines. When the strikers learned that the maintenance men were in the plant and attempting to operate it, they called a mass meeting on the school grounds and advanced on the plant, then 800 strong. On the way to the plant, which is located about a mile from the town, their ranks were swelled until on their arrival about a thousand were in line.

A detachment of company police awaited the strikers outside the plant, and as the mob moved toward the station they charged in close formation, firing as they advanced. William Davis, a miner, went down, dead. The sight maddened the miners, who rushed to hand-to-hand attack.

The fifty policemen were overwhelmed by the onslaught and for more than an hour were subjected to very rough treatment. Mounted police drove their horses into the mob, but this only added to the fury of the miners.

The power plant after the outbreak looked as if it had been under bombardment. Not a window was left intact and every bit of machinery was destroyed beyond repair.

Five hundred troops, with full equipment, including steel helmets, were sent from Halifax by train on the night of June 11 for duty at the scene of the outbreak.

The strikers took the law into their own hands and on June 13 were in control of the situation throughout the colliery districts of the island. At night under cover of darkness raiding, looting and burning of company stores and other property continued, and the 500 troops from Halifax made no move to check the disorder.

Not only did the destruction of property and assaulting of police and mine company officials continue, but the area of the mob's depredations widened.

At New Waterford two saloons were raided; No. 14 company store, previously raided, was again visited and robbed. The home of William Connors, a company official, was stoned. The house of John MacVarish, a resident company policeman, was wrecked. A mine official, Rory D. McNeil, was dragged from his home and severely beaten.

At Dominion, No. 1 company store was raided and looted.

At Glace Bay, No. 2 store was raided and looted for the second time.

No. 1 and No. 3 stores were also entered and cleared of their stocks.

At Sydney Mines the company store and warehouse was robbed of goods valued at \$20,000.

The corporation store at Caledonia No. 4, a suburb of Glace Bay, was burned to the ground.

Fifty members of the United Mine Workers were sworn in June 13 as special constables to patrol the streets and aid the local police force in maintaining order at New Waterford.

Ford Fights Assigned Car Decision in Court

A test of the validity of the United States statute which deals with the assignment of railway cars to coal mines according to the capacity of the mine began at Covington, Ky., before three federal judges. The Ford-Motor Co. and the Fordson Coal Co. are plaintiffs in the suit filed last February for an injunction to prevent the Interstate Commerce Commission from distributing privately owned railroad cars as though they were the property of railroads.

Judges hearing the suit are: C. A.

Cappellini Re-elected

Scranton, Pa., June 16—Indications point to the re-election of Rinaldo Cappellini as president of District 1, United Mine Workers, as returns of Thursday's election are received from all sections of the district. Cappellini was opposed for the office by William J. Brennan, whom he succeeded. A majority of 18,000 votes is claimed by Cappellini.

Michael J. Kasik, of Dupont, the administration candidate for vice-president, also is believed to have been elected. He opposed George Isaacs, incumbent. Enoch Williams is said to have triumphed over Walter Harris, of Parsons, for the office of secretary-treasurer. It will be Williams' third term as secretary-treasurer of the district. John Boylan and James Gleason, present board members, were returned to office. Alex G. Campbell, of Pittston, is reported defeated as international board member by Dennis Brislin, of Nanticoke.

The result of the election is no surprise to those who have followed the situation. Cappellini and his slate had the support and cooperation of the International officials, it is said.

Moorman and A. C. Denison, of the U. S. Circuit Court of Appeals, and A. M. J. Cochran, senior judge of the U. S. District Court.

The suit arose from the distribution of 4,000 steel cars owned by the Ford corporations, which took the stand that these cars should not be distributed but should be given to the Ford mine in Harlan County, Kentucky.

The first all-electric car dumper to be installed on the Great Lakes is being built by the Wellman Seaver Morgan Co. for the Toledo & Ohio Central R.R. at Toledo. This dumper will be used for transferring coal from railway cars to lake boats and will be capable of handling cars ranging in capacity up to 120 tons at the rate of 40 an hour. The electric equipment for operating the dumper will consist of a switchboard, two 3-unit motor generators, one 2-unit motor generator, four 450-hp. motors for hoist and cradle turnover, and approximately 500 hp. in direct-current mill type motors with magnetic control for the operation of auxiliaries, all the electrical equipment being of General Electric manufacture.

End of Union Power in Panhandle Seen in Jail Sentence on Bittner; Leader Says Fight Is to a Finish

In a decision rendered June 11 Judge I. Grant Lazelle, in Monongalia County Court, at Morgantown, W. Va., sentenced Van A. Bittner, chief international representative of the United Mine Workers in northern West Virginia, to six months' imprisonment. In addition Judge Lazelle imposed a fine of \$500, delivering a scathing decision which required almost an hour to complete. It was alleged that at a mass meeting held in Fairmont April 30 Bittner violated an injunction granted to the Continental Coal Co., which operates mines in the Scotts Run section.

The full effect of the sentence on Bittner was calculated in two different ways in the region early this week. Coal operators were inclined to think that it was the "swan song" of the union miners' leader in the region and the death knell of the United Mine Workers' movement in the West Virginia hills. Officials of the union, however, do not seem to think so, saying that it would strengthen the morale of the union miners, especially of those who are wavering in the long-drawn-out economic struggle in this field. Once the late Federal Judge Alston G. Dayton had Mr. Bittner before him, but is quoted as saying at that time that he did not want to make a martyr of him.

Will Appeal to Higher Court

In a statement issued June 12 Mr. Bittner said: "We will appeal to the Supreme Court of West Virginia against the findings of Judge Lazelle of Monongalia County and, so far as our honor, integrity and, as a man, our loyalty to our American institutions is concerned, we stand on the record made in our trial and rest our case there. The decision of Judge Lazelle will in no way affect the policy of the United Mine Workers to continue our fight for the Baltimore and New York wage agreements in northern West Virginia. It shall be the purpose of our union to use all its power and influence, financial and moral, to win these things for our people. We expect to carry on this industrial battle in the future, as we have in the past, in accordance with the lawful rights guaranteed to every citizen of our country."

In a circular letter issued to the union miners last week Bittner announced that "during the past week we were notified by the officers of the Consolidation Coal Co. that it was their policy not to abrogate their agreement, but, if the miners desired to do so, they would make individual contracts with them. According to this proposition, the question of whether the United Mine Workers will live and the miners enjoy the wages and working conditions provided for in the Baltimore agreement is left entirely with the miners themselves."

"After spending fifteen months among you," said Bittner. "I am convinced that the miners of northern West Virginia are as loyal to the United Mine Workers as the miners in any other

section of this country, and I am further convinced that, while there may be a few weaklings in various localities, the miners of northern West Virginia will not allow their organization to be destroyed."

The keynote of his letter is contained in the closing paragraph, where Mr. Bittner in part says: "The United Mine Workers is in this battle to a finish. There will be no surrender."

A series of mass meetings of union miners in northern West Virginia was held last week by some of the larger locals at Monongah, Middleton, Carolina, Wyatt and Ida May mines of the Consolidation Coal Co. when the miners voted to stick with the United Mine Workers and passed resolutions in favor of retaining the Baltimore agreement. The Kingmont and Morgan Mine employees of the Virginia & Pittsburgh Coal Co. refused to accept a cut also.

Mines Prepare to Reopen

The Erie mine of the Hutchinson Coal Co. was cleaning up last week and will load coal this week near Hepzibah, Harrison County, and in the belt where Columbia, Pinnickinnick and Owings mines of the Consolidation Coal Co. are working. It was rumored early this week that the Consolidation Coal Co. will soon open other mines and that the Edna Gas Coal Co. of the R. M. Hite interests in the Morgantown section also will reopen soon.

A new peak for non-union coal production was reached June 11, when 1,234 cars were loaded, supplanting the previous daily peak of May 26, when 1,195 cars were loaded. With 163 open-shop mines at work June 12 more operations were active than on any day for a long time. Sixty-six plants were active on the Monongah Division, B. & O.; 35 on the Monongahela; 27 on the Charleston division, B. & O., and 25 on the Cumberland Division, B. & O., which represent most of the mining activities of the region. From eight to 10 mines work daily on a union basis. It is rumored that more mines will start on a union basis in the Scotts Run section, where heavy lake tonnage is being loaded.

In the first four days of last week the non-union mines loaded 4,728 cars of coal, and union plants 810 cars.

Not Much Picketing

Comparatively little picketing is being done in the region these days. The most active picketing is at Owings, it is reported. In the Grafton and Fairmont sections everything is quiet.

In the federal court of northern West Virginia at Elkins June 12, Judge W. E. Baker extended a temporary restraining order to prevent officials of the United Mine Workers from interfering with the operation of mines of the Mineral State Coal Co. and 18 other companies operating in the Panhandle fields. The extension was made, according to reports, because of lack of



Tipple of Premier Coal Co.

Located on Woolfe Creek at Premier, a village near Yamacraw, McCreary County, Kentucky.

time to serve summonses on the defendants since June 2, when the restraining order was granted at a court session in Wheeling. The case is returnable at Elkins June 22.

These companies, which have mines in Ohio, Marshall and Brooke counties, charge that a conspiracy exists among the international officers of the United Mine Workers and coal operators of the Central Competitive Field, a charge that has been made by operators in West Virginia for many years, and it was further alleged that the check-off was the instrument by which the organization of the "Little Mountain" State is planned. The injunction sought would prevent any further attempt to organize the Panhandle district mines of the nineteen companies by the use of money, intimidation or violence and prevent mass meetings from being held by the United Mine Workers. John L. Lewis, international president, and other international officers, district officers and union members are named as defendants in the bill by which this action was instituted.

In Monongalia County Court, June 12, Judge I. Grant Lazelle altered a restraining order issued against Justice of the Peace Daniel Campbell and Constable J. S. Watson of Cass District. A section forbidding them to go upon the property of the Continental Coal Co., in Scotts Run, while in the execution of their lawful duties was stricken from the injunction.

Ettore Del Guzzo and James Feeley, international union representatives, gave bond in the sum of \$3,000 in the Taylor County Court at Grafton June 9, on a charge of being implicated with John Billy, a union miner, in blowing up a tipple in the Wendel section.

Interstate Commerce Commission examiners on June 3 disapproved of a petition of the Southeastern Railway Co. for a permit to construct 12 miles of railroad to reach Harlan (Ky.) coal fields, from Belvale, Va., holding that the road was not essential.

142 Lives Lost in April In Coal-Mine Accidents; Rate Is Lower Than Usual

Accidents at coal mines in the United States in April, 1925, caused the death of 142 men, according to reports from State mine inspectors to the U. S. Bureau of Mines. The death rate for the month was 3.45 per million tons of coal produced as compared with 4.05 in the preceding month and 6.58 in April last year. The output of coal was 41,174,000 tons in April, 1925, and 37,215,000 tons in April, 1924. The much larger death rate for April last year was due to the loss of 119 lives in an explosion at Benwood, W. Va., without which the rate would have been 3.39.

Reports for anthracite mines showed that 34 fatalities occurred in April, indicating a fatality rate of 4.55 per million tons, based on a production of 7,472,000 tons of coal during the month, as compared with a rate of 5.38 in the previous month and 4.99 in April last year and an average rate of 6.08 for the month of April over a 10-year period 1915-1924. The reports for bituminous mines showed a death list of 108 men and a production of 33,702,000 tons of coal, thus indicating a fatality rate of 3.20 per million tons, as compared with 3.80 in the previous month and 6.94 for April last year (including the Benwood explosion) and an average rate of 4.31 for April during the ten years 1915-1924.

During the first four months, January to April, of the present year, 737 employees have been killed by accidents at coal mines. As the production of

Hoover Seeks Fair Chance For Small Business Unit

At one of Secretary Hoover's conferences with the press, this correspondent submitted the following question: "One of the newspapers infers that it is the policy of the administration, backed by the Department of Commerce, to promote consolidation of business into big units. Is this true?"

To this question, Mr. Hoover replied: "It certainly is not. It is exactly the reverse of the truth. In the competitive industries the whole work of this department in assistance to foreign trade, in co-operation to establish standards and grades of products, in scientific and economic investigation, publication of statistics, etc., is for the purpose of giving the small unit the same advantages which are already possessed by big business."

coal during this period totaled 191,370,000 tons, the fatality rate to date was 3.85 per million tons, as against 5.11 for the same months last year. For anthracite mines alone the fatality rate was 6.08, based on 177 deaths and an output of 29,125,000 tons, while for the first four months of 1924 the corresponding rate was 5.42. The rate for bituminous mines alone was 3.45, as compared with 5.06 last year, the 1925 output to date being 162,245,000 tons and the fatalities numbering 560.

Kentucky Coal Mine Values Raised by Tax Body

Assessments of ten coal companies have been boosted \$1,859,581 by the State Tax Commission of Kentucky. The Fordson Coal Co., of Pike County, got an increase of \$713,035 and the West Kentucky Coal Co., of Hopkins County, an increase of \$600,000.

A suit brought by the Fordson Coal Co. attacking the raise given the company last year is now pending in the Court of Appeals.

The commission also has pending in the federal court, Western Division, a suit brought by the St. Bernard Coal Co., which after the filing of the suit sold its holding to the West Kentucky Coal Co., contesting the boosted assessment it got last year. The latter has accepted this year's increase.

The companies assessed to date by the commission follow:

Pike County—Fordson Coal Co., \$3,016,035, an increase of \$713,035; Edgewater Coal Co., \$549,525, an increase of \$20,951; Kentland Coal & Coke Co., \$1,883,369, an increase of \$170,369; Colony Coal & Coke Co., \$381,965, an increase of \$50,080; Consolidation Coal Co., \$1,017,096, an increase of \$163,096.

Hopkins County—West Kentucky Coal Co., \$2,118,392, an increase of \$600,000.

Muhlenberg County—Kirk Coal Co., \$138,764, an increase of \$13,000; Beech Creek Coal Co., \$234,121, an increase of \$20,000; Central City Gas & Water Co., \$8,000, an increase of \$5,000, and the Kentucky Utilities Co., \$195,000, an increase of \$105,050.

Coal-Mine Fatalities During April, 1925, by Causes and States

(Compiled by Bureau of Mines and Published by Coal Age)

State	Underground											Shaft			Surface						Total by States					
	Falls of roof (coal, rock, etc.)	Falls of face or pillar coal.	Mine cars and locomotives.	Gas or dust explosions.	Explosives.	Suffocation from mine gases.	Electricity.	Animals.	Mining machines.	Mine fires (burned, suffocated, etc.)	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Cage, skip or bucket.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity.	Machinery.	Boiler explosions or bursting steam pipes.	Railway cars and locomotives.	Other causes.	Total.	1925	1924
Alabama	5		4				1				1	11													11	11
Alaska																									0	0
Arkansas	1											1													1	0
Colorado	2	1										3													3	3
Illinois	9			1								10													10	5
Indiana	3											3													3	2
Iowa																									0	0
Kansas																									0	0
Kentucky	5		3				1					9													9	9
Maryland	1											1													1	1
Michigan																									0	0
Missouri																									0	0
Montana																									0	2
New Mexico	1										1	2						1					1	3	0	0
North Dakota																									0	0
Ohio	3		1						1			5					1	1	1				1	2	8	4
Oklahoma					1		1					2													2	0
Pennsylvania (bituminous)	11		4	5			1		2			23										1	1	24	18	0
South Dakota																									0	0
Tennessee			1									1													1	2
Texas																									0	0
Utah	1											1													1	1
Virginia	4						1		1			6													6	4
Washington																									0	3
West Virginia	14		5	3					2			24						1					1	25	142	1
Wyoming																									0	1
Total (bituminous)	60	1	18	9	1	4	5		6		2	102					1	1	3			1	1	5	108	211
Pennsylvania (anthracite)	20	3	3	1	1							32							1		1		2	34	34	34
Total, April, 1925	80	4	21	10	5		5		6		3	134				1	1	4	4	1		1	7	142		
Total, April, 1924	55	12	24	124	3		2		2		3	229	2	1	1		4	4		1		4	3	12		245

Readjustment of Jacksonville Pact Dependent on Agreement on Wages In Hard-Coal Field, Is Capital View

By Paul Wooton

Washington Correspondent of Coal Age

Observers of the bituminous industry, although entirely at sea as to whether or not a new anthracite agreement is likely to be negotiated, have come to recognize that there will be no serious discussion of changes in the Jacksonville scale until the new anthracite agreement shall have been signed. An extended suspension in the anthracite region would stimulate the bituminous market to the point where wage concessions might be avoided.

It has been apparent for some weeks that a new factor is entering into the already tangled bituminous situation. The factor is the expiration of the anthracite agreement on Sept. 1.

Washington, D. C., is a poor place in which to learn what is going on beneath the surface in the anthracite industry. The anthracite operators have no national association. They have no representative in the capital. Washington also is a poor place in which to find out what is in the minds of the United Mine Workers. This applies with even more force to the labor leaders in the anthracite district.

Soft-Coal Situation Changed

It is not necessary, however, to know what the General Policies Committee is thinking or what may be in the minds of the presidents of districts Nos. 1, 7 and 9 to sense the fact that a change has come over the bituminous situation and that this change is related to the forthcoming negotiations in anthracite.

If two months ago the bituminous mine workers in the East were on the verge of considering a change in the scale there has not been the slightest outward expression of this feeling in recent weeks. It may be surmised that the leaders of the mine workers are hoping that something will come out of the anthracite negotiations to help them in their troubles in the bituminous fields. These men have been in tight places before and have won out by holding on until luck turned.

In April, 1922, the miners' stand against a reduction of wages was pronounced by nearly everyone as being hopeless. For weeks after the strike began the operators' leaders were sure they had the union beaten. It may have been only luck which turned defeat into victory. The railroad shopmen, quite independent of the mine workers, happened to make up their minds to strike and that saved the situation for the mine workers. Unexpected good fortune has developed so many times in the affairs of the Mine Workers that one may suspect their leaders of holding desperately to the Jacksonville rates waiting for luck to turn their way again. So long as that chance exists it is not likely that the leaders of the miners' union will admit defeat and accept a cut.

There is no uncertainty about two

deductions. The Mine Workers in the anthracite field will oppose a cut more vigorously than those in the bituminous field. The anthracite operators, with large stocks on their hands and fearing further encroachment from substitute fuels, are in a mood to demand a reduction.

There is enough uncertainty in this outlook, officials here believe, to justify every consumer of anthracite in laying in his winter's coal at the earliest possible time.

Navy Awards Contracts for Half Million Tons

The Bureau of Supplies and Accounts, Navy Department, Washington, D. C., which opened bids May 21 covering approximately 500,000 tons of bituminous coal for delivery to navy yards, naval stations and vessels, has made the following awards:

Raleigh Smokeless Fuel Co., Beckley, W. Va., for supplying 27,000 tons, delivery f.o.b. Navy Yard, Boston, \$5.62 per ton.

Metropolitan Coal Co., Boston, 5,500 tons mine-run, delivered at Chelsea, Mass., \$6.19.

Johnstown Coal & Coke Co., New York, 6,500 tons mine-run, to Navy Supply Depot, South Brooklyn, N. Y., \$5.12.

W. H. Bradford & Co., Inc., Philadelphia, 50,000 tons mine-run, delivered at Brooklyn, \$4.53.

Johnstown Coal & Coke Co., New York, 20,000 tons mine-run, delivered f.o.b. cars, Navy Yard, Philadelphia, \$4.39.

Imperial Coal Corp., New York, 14,000 tons mine-run, delivery f.o.b. cars, Naval Air Station, Lakehurst, N. J., \$5.11.

W. H. Huber & Co., Philadelphia, 24,000 tons mine-run, delivery f.o.b. Annapolis, Md., \$4.82.

Wm. C. Atwater & Co., New York, 50,000 gross tons, mine-run, and/or stoker coal (nut and slack), for delivery f.o.b. hopper cars, Navy Yard, Washington, D. C., \$1.57 and \$4.41 delivered.

Hall Bros. & Co., Inc., Baltimore, 23,000 tons mine-run, delivery f.o.b. cars, White Plains, Md., \$5.33 and \$5.42.

Castner, Curran & Bullitt, New York, on 25,000 gross tons delivery f.o.b. hopper bottom cars, Naval Operating Base, Hampton Roads, Va., mine-run and/or stoker coal (nut and slack), \$4.76. Another award on this item was made to Fort Dearborn Fuel Co., Norfolk, at \$4.50, but the Navy Department records do not indicate how the tonnage is to be split between the two successful bidders.

Johnstown Coal & Coke Co., New York, on 22,000 tons mine-run and/or stoker (nut and slack), f.o.b. cars, Norfolk Navy Yard, Portsmouth, Va., \$4.69; Wm. C. Atwater & Co., New York, \$4.54. Records do not indicate how tonnage is to be split.

Johnstown Coal & Coke Co., New York, 7,000 tons mine-run, f.o.b. cars, Portsmouth, Va., \$4.70.

Elkhorn City Fuel Co., Johnson City, Tenn., 10,000 tons, mine-run, f.o.b. cars, Navy Yard, Charleston, S. C., \$4.95.

Prudential Coal Corp., Chicago, approximately 20,000 tons, delivery f.o.b. mine, Naval Training Station, Great Lakes, Ill., \$1.232, \$2.1728, \$1.12 (rv.) and \$1.568.

Coleman & Co., Inc., Philadelphia, 20,000 tons steaming coal, delivery f.o.b. vessels or barges at piers, New York Harbor, or at N. Y. Navy Yard, Brooklyn, \$5.24, \$5.45 and \$6.25.

Coleman & Co., Inc., Philadelphia, 6,000 tons steaming coal, delivery f.o.b. vessels or barges at Philadelphia piers, \$4.92 and \$4.77.

Independent Coal Corp., New York, 150,000 gross tons steaming coal, delivery as required f.o.b. Hampton Roads, \$4.43 per ton.

Machine Loader Pay Named For Indiana Mine

John L. Lewis, International president of the United Mine Workers, spent several hours in Terre Haute, Ind., recently conferring with officials of District No. 11 regarding the use of loading machines in the Ebbw Vale mine, one of the largest in the state. The machines were placed recently and mine owners and district officials have had some difficulty in arriving at an agreement regarding the division of labor and other working conditions. A scale of \$10.07 for eight hours has been agreed on. No national or district rate or condition existed for the operation of loading machines, and it was necessary to make a contract between miners and the owners of the mine using such machines. This is the same as the scale at the New Orient Mine, in Illinois, which incidentally has the only machine loading scale in the latter state.

Coal Statistical Bureaus Springing Up

The future of local and district coal associations is a matter of more than passing interest in the industry just now, especially in West Virginia and eastern Kentucky, where a number of operators have subscribed to statistical bureaus.

On May 1, producers of West Virginia smokeless coals very largely, as individuals, subscribed to the Stover Smokeless Coal Bureau, with headquarters in the Straus Building, Chicago. Holly Stover, of Raleigh County, West Virginia, is at the head of this concern. It is said that 21,000,000 tons out of a possible annual production of 30,000,000 tons of commercial smokeless coal have already subscribed to Mr. Stover's bureau.

High-volatile coal producers of southern West Virginia and eastern Kentucky have individually enrolled their tonnages through a bureau of coal statistics, with temporary headquarters at Williamson, W. Va., it being understood that just as soon as the sponsors for the bureau are assured of sufficient interest in the idea permanent offices will be opened in Cincinnati, Ohio. This organization is patterned after the Hardwood Lumber Association statistical bureau, being arranged on a plan different from the Holly Stover Bureau, which is similar to Dr. Honnold's bureau, of Chicago, which has gathered and disseminated coal statistical information covering southern Illinois for many years.

George Brackett, one-time executive secretary of the Fairmont Operators' Association, has severed his connection with that association and has opened the George S. Brackett Statistical Bureau, handling information for the high-volatile coal producers of the northern part of West Virginia.

Midwest Retailers Study Ways to Improve Service And Cut Handling Costs

Removal of headquarters of the Mid-West Retail Coal Association, composed of coal dealers of western Illinois, Missouri and Kansas, from St. Louis to Kansas City, Mo., was decided by directors of the organization following its fifth annual convention in Kansas City, June 9 and 10.

Two subjects contended for the lime-light in discussions at the convention: Improvement of service and reduction of price. W. E. Stout, combustion engineer with the Coal Credit & Correct Weight Bureau, of Kansas City, and N. H. Vaughan of the Ransom Coal & Grain Co., Kansas City, were principal contributors to the discussion of service.

Mr. Stout explained that one of his duties is to visit architects of every new building that is to be erected in Kansas City and endeavor to prove to them the advantage of burning coal. In this connection he also seeks to aid the architect or contractor in the proper installation of the heating plant, and strives to influence him to build dustproof coal bins and ash bins, which overcome one of the chief criticisms of the coal-burning heating plant, its "messiness."

Mr. Vaughan, a member of the Kansas City Coal Court, told of the effectiveness of the court, since its organization late in January, in developing public confidence in the coal dealer and in reducing the number of complaints of short weight, substitution, and the like.

Price reduction through the reduction of overhead was the theme of Walter F. Heinecke, of the Heinecke Coal & Supply Co., and C. H. Schuettenberg, Jr., of the Schuettenberg Ice & Fuel Co., both of St. Louis, who pointed out the economy with which coal might be handled mechanically by the dealer.

Ira Clemens, of the Mackie-Clemens Fuel Co., speaking as an operator, told the dealers of the woes of the Southwestern producer, and added to the discussions of service and price reduction. The coal dealer should keep such accurate account of his customers that he should know when their bins were getting low, and should call up the customer for his order instead of waiting for the buyer to call him, he said.

W. R. Feuquay, of St. Joseph, Mo., discussed that ever present bogey of the coal dealer of the Southwest, oil-burning competition.

Ray D. Kelly, of Springfield, Mo., was re-elected president of the association; W. R. Feuquay, St. Joseph, and S. P. Guthrie, Mexico, Mo., were newly elected vice-presidents; while the following officers were re-elected: W. P. Heinecke, St. Louis, vice-president; H. R. Oglesby, Warrensburg, Mo., vice-president; J. P. Andriano, St. Joseph, secretary, and F. L. Keightly, St. Louis, treasurer. No commissioner has yet been selected to succeed E. J. Wallace, of St. Louis, who served last year.

Lewis Tries to Halt Ohio's Drift to 1917 Scale

John L. Lewis, international president of the United Mine Workers, in addresses at Athens and Pomeroy, Ohio, recently said there would be no backward movement by the union, which will insist upon the observance of the Jacksonville contract until its expiration 21 months hence. The appearance of all the state officers, reinforced by Lewis, was plainly a drive to head off the movement back to the 1917 scale which has made its appearance in several sections of the state. Mr. Lewis is afraid if he gave permission to return to the 1917 scale, miners in Indiana, Illinois and Missouri would want the same privilege, and in that way would not help to solve the problem.

In spite of warnings from the union, mines are being opened regularly in various sections of the state, working under the 1917 scale, and it is thought that the union officials' talks have made very little impression on the miners. The Pittsburgh Coal Co. expects to open another mine in the Pomeroy district soon, employing about 200 miners. The company now has two mines in operation both under the 1917 scale.

Warren S. Stone Dead

Warren Stanford Stone, 65, president of the Brotherhood of Locomotive Engineers and all its far-reaching financial activities, in banks, trust companies, coal mines and other business ventures, died in a hospital at Cleveland, Ohio, June 12 from an acute attack of Bright's disease.

After putting in twenty-five years as locomotive fireman and engineer he was chosen Grand Chief of the International Brotherhood of Locomotive Engineers, in 1903, succeeding P. M. Arthur, who died suddenly. During more than twenty years as chief executive of the brotherhood it increased from a membership of 38,000 with \$69,000,000 insurance in effect to nearly 90,000 members carrying approximately \$200,000,000 of life, sickness and accident insurance.

The first brotherhood bank was opened in Cleveland in 1920, which was followed by the establishment of several others throughout the country.

Under Mr. Stone's guidance the engineers, as individuals, invested more than \$2,000,000 in coal-mine properties in Kentucky and West Virginia and financed a mail-order store on a profit-sharing basis to provide themselves with the necessities of life.

Mr. Stone had the reputation of never being called on to lead a strike of railroad men, but the brotherhood's connection with coal mining was not so fortunate, labor difficulties having been frequent in that branch of its activities. Even now a wage controversy is on at its collieries.

Pennsylvania Retailers Discuss Live Topics

Any suggestion that the anthracite operators are engaged in or desire to foster a campaign to wreck the power of the United Mine Workers in the hard-coal regions was vigorously challenged last week by Walter Gordon Merritt, counsel for the Anthracite Operators' Conference. Mr. Merritt's denial was made in an address before the 21st annual convention of the Pennsylvania Retail Coal Merchants' Association, held at the Hotel Bethlehem, Bethlehem, Pa., June 11 and 12, and was his answer to the interpretation placed on his recent talk to the National Retail Coal Merchants' Association by Ellis Searles, publicity agent of the union.

"Mr. Searles," stated Mr. Merritt, "has accused me of being the biggest union hater in the country. I say here and now that I am ready to do everything in my power to encourage arbitration of any differences which may arise in the negotiations for a new wage agreement in the anthracite field. Will Mr. Searles also declare himself in favor of arbitration? Will the United Mine Workers of America take the same stand?"

"The anthracite industry wants sound, stable contractual relations with the United Mine Workers, not the demolition of those relations. It wants a contract backed by financial and moral responsibility upon the part of the contracting parties so that 'outlaw' strikes will be truly outlawed. It asks only the hearty co-operation of the union in reducing the costs of production. We in the anthracite industry take the position that future settlements between employers and employees should be based upon justice to the operators, the miners and the public and not upon the big stick or the ambitions of politicians ignorant of the facts. Settlements upon any other ground than justice simply breed new difficulties."

The convention, one of the best attended in the history of the organization, opened with an address by the president, Samuel B. Crowell, who urged that coal men participate more actively in the work of their local chambers of commerce and, through them, in the work of the Chamber of Commerce of the United States. Wellington M. Bertolet, secretary, reviewing the accomplishments of the past year, stressed particularly the anthracite standardization program and the cost studies made by the association.

"Courage" was the theme of remarks by H. B. Blauvelt, Hackensack, N. J., who opened the afternoon session on Thursday. J. Rea Patterson, Philadelphia, Pa., talked on "Motor Truck Economies" and pointed out the field of the electric truck in short-haul business. James C. Tattersall, Trenton, N. J., gave a chalkboard exposition of retail costs.

The convention re-elected Mr. Crowell president; Walter Montgomery, Harrisburg, Pa., vice-president, and J. Arthur Strunk, Reading, Pa., treasurer. The 1926 convention probably will be held at York.

Viewpoints of Our Readers

Manufacturer Defends Electric Cap Lamps

Believes Inspection of Mines Would Be Strict Enough to Overcome Lamp Hazards—Points Out That Man Who Blunders into Gas Endangers No Lives Except His Own

I cannot agree with the argument and reasons advocated in your editorial in the March 5 issue: "Making Electric Lamps Universal."

Gas and dust explosions accounted for 536 fatalities in 1924, and the fatality rate from this class of accidents for the year 1924 was nearly double that of 1923 and almost treble the average for the previous ten years. Open lights caused about 70 per cent of the ignitions. Practically one-half of the percentage of coal mined last year was from closed-light mines. While I do not have the exact statistics available at present, I doubt very much if over 15 per cent of the explosion fatalities were in closed-light mines, and yet these mines are a far greater potential gas hazard, because the great majority of them are gaseous.

REDUCE HAZARD IF POSSIBLE

There is one sure way in which we can entirely eliminate the fatalities due to explosions, and that is to close down all our coal mines and permit no one to enter them. This is not going to be done because we have to produce coal. But the fact that we cannot eliminate all of the explosion hazard is no reason why we should not make a sincere endeavor to reduce them to a minimum by practical means and without placing too great financial hardship on the industry.

The open light represents about 70 per cent of the gas ignition hazard. Is it practical to eliminate it? I maintain that it is, because, at the present time, two or three types of electric cap lamps now on the market give just as satisfactory service as open lights and are just as economical to operate and result in greater efficiency. We know of operators who are installing them largely on the basis of efficiency.

NO BURDEN TO OPERATOR

Their installation is not a burden to the operator because he can rent the lamps without any initial expense, and charge the miner a rental that will not exceed the cost which

the miner now pays in maintaining his open light. This rental charge, which the operators collect, will pay the rental charged by the lessor and the expense of an attendant to look after the lamps. Our company now has about 20,000 lamps on rental and some of these rental installations have been in force for ten years; so we have the evidence to substantiate the above statement.

ELIMINATE OPEN LIGHTS

I agree with you, that the installation of electric cap lamps is not going to eliminate entirely the explosion hazard. I agree that there is still a chance for gas ignition from the flame of an explosive or from an electric arc. It is not practical or possible at the present time to eliminate explosives and electricity from our mines. It is possible to eliminate open lights without increasing the cost of coal or decreasing efficiency. Certainly such a step would greatly reduce the explosion hazard, and, after this has been accomplished, then, gradually, steps should be taken to surround and safeguard the use of electricity and explosives so that their hazard will be reduced to a minimum, within the limits that would be reasonable and practical and in a way that would not impose too heavy a financial burden.

ENGLAND'S RECORD IN 1924

That explosions can be practically eliminated is demonstrated by the record of Great Britain in 1924. Mines there employ approximately a million men underground, and only 6 per cent of all these underground employees use open lights. They killed last year a total of 35 men from explosions, as compared with our 536. Out of those 35, more than one-half were from open light mines, representing 6 per cent of the production, showing again the dangerous factor of the open light.

It is admitted that the electric cap lamp will give no indication of lack of oxygen and it is possible for a

man equipped only with an electric cap lamp to go into an atmosphere that contains insufficient oxygen and be asphyxiated. I say it is *possible*—not probable. Just check up our records of such occurrences in this country where we are now using approximately 250,000 electric cap lamps, and figure what the hazard is from this cause. I maintain that in your editorial, you give this a prominence out of proportion to its hazard value.

INSPECTION REQUIREMENTS

Where electric cap lamps are installed, the mining law in most cases requires that certain inspection requirements by officials be carried out. The laws are far more rigid for the same mine than when they used open lights. These inspection requirements are good and should be enforced in open light mines as well. Under these additional inspection requirements, there is far less danger of the accumulation of black damp in sections of the mine that men are liable to enter.

I maintain that for every section of a mine in this country into which a man can walk and where there is an atmosphere that would cause asphyxiation, there are 10 such sections containing an explosive mixture of gas. The man who, equipped with an electric cap lamp, will wander away from his working place or usual course of travel into an atmosphere deficient in oxygen, will be just as liable to do the same thing when equipped with an open light, and his chances for encountering explosive gas and igniting it are many times greater than the possibility of his encountering black damp. In the one case he only endangers his own life—in the other case he endangers the life of every man in the mine and the property itself.

We are not confronted in this country with danger from outbursts of CO₂ gas, which necessitates regulations in some foreign countries requiring the use of flame safety lamps as well as electric lamps to give warning of such outbursts and accumulations.

EQUIPPING GASEOUS MINES

In mines that are known to be gaseous, certainly a number of flame safety lamps should be in each section of the mine. If all the officials, including foreman, assistant foreman, section foremen, fire bosses, shot firers, machine men and timber

men are equipped with safety lamps this should be adequate protection.

I cannot see that the accumulation of explosive gas, as mentioned in your editorial, greatly involves lamps. Instead it raises a question of inspection and discipline. The gas pocket hazard is just as great in an open-light mine as in an electric cap lamp mine. It may even be greater.

CAUSES OF EXPLOSIONS

In order to have an explosion at least two factors must be present simultaneously—an accumulation of an explosive mixture of gas and, also, a means of igniting it. This explosive mixture may be caused by an air door being left open. The ignition in the case of an open-light mine is most apt to occur from one of three causes—an open light, an electric arc, or the flame from an explosive.

In an electric lamp equipped mine, the first ignition hazard is eliminated, so that there are only two main possibilities. The open light is present and ready to do its part of the work throughout the entire shift, moving here, there, and everywhere. The flame from an explosive is of short duration and its exposure hazard is comparatively short when spread over the entire shift. The same thing is more or less true of the electric arc, particularly from a trolley locomotive, and its time of exposure within the area where such a gas accumulation is going to occur, is inconsiderable.

In summing up my arguments, I want to state that I take exception to the following statement near the conclusion of your editorial: "Safety from gas explosions will not be afforded by the mere introduction of the electric cap lamp. It may, in fact, assist in increasing the hazard by delaying the gas explosion long enough for an extremely dangerous quantity of gas to accumulate. . ."

IGNITION MEDIUM NECESSARY

Statistics and facts do not bear out your statement. The assertion might be true if, every time such an accumulation occurred, there was present the other factor necessary to cause an explosion—namely, an ignition medium. More frequently than not, before this igniting medium of an electric arc or flame of an explosive occurs in that vicinity, the accumulation will have been discovered by a fireboss or foreman and the condition rectified, or, the door

left open by a thoughtless motorman will have been closed.

In the neighborhood of 75,000 electric cap lamps are in use in the Western Pennsylvania field, including all of the so-called very gaseous mines of the Pittsburgh and Connelville region and an average of 50,000 of these have been in use for a period of 10 years. The experience in this supposedly dangerous field over a period of 10 years should certainly be of value for the purpose of arriving at statistics—and this experience certainly does not bear out the positive statement quoted from your editorial.

JOHN T. RYAN,
Mine Safety Appliances Co.
Pittsburgh, Pa.

Mine Keeps Tack-Map Record Of Operation

The issue of *Coal Age* for March 13, 1924, contains a short article by Jerome C. White covering a practice of using pins and maps to record operating conditions. This method deserves general adoption in coal mining. It is followed at an Illinois mine, and I submit a description because its users have found it indispensable.

The Thermal mine of the Donk Brothers Coal and Coke Co., near Edwardsville, has a normal daily production of 3,400 tons. It is one of the few skip-hoisting mines in the state, it being comparatively new and embodying numerous distinctive features in equipment and operation. Among these refinements is a large blueprint of the mine's present and proposed workings upon a 200-ft. scale so mounted against a wall that it may be studied conveniently. Into this map the engineers stick celluloid-headed thumb-tacks of various colors and glass-headed pins, according to a legend or key attached to the map.

COMPLETE RECORDS ON MAP

An inspection of the map at any time will indicate: How many coal-cutting machines are in use and what territory each is cutting with the number of miners in that territory; how many locomotives and the working faces served by each; the number of timbermen, tracklayers and slatemen with the entries assigned to each; all entries and rooms that are being driven, with the number of men on each air-split or served by each machine or each loco-

motive. Every locomotive in the mine bears a fixed number at all times, and each is represented upon the map by a blue-headed thumb-tack upon which its number is printed with white ink.

The same is true for the mining machines, except that the tacks have white heads printed with black ink. Miners are represented by black glass-headed pins without numbers, although, if desired, the scheme could be elaborated to indicate the check numbers. Tracklayers are represented by tacks, timbermen by yellow tacks and slatemen by green tacks. Necessary changes or revisions are made at the end of each two weeks' period.

KEEPS TAB ON 500 WORKERS

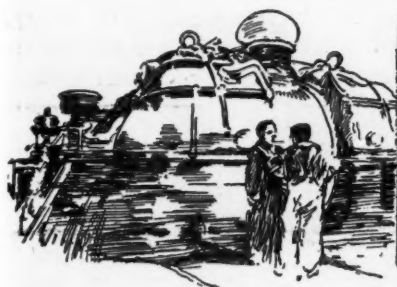
In this fashion the duties of about 500 underground men, both contractors and shiftmen, are allocated, affording visual information of immense assistance in the maintenance of balanced operations and production and that would prove immeasurably important in the case of a disaster.

A. J. HOSKIN,
Research Associate Professor of
Mining Engineering
University of Illinois,
Urbana, Ill.

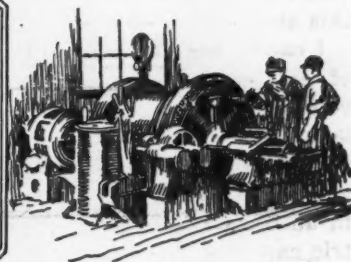
Not Much Turn-over Here

As a reader of *Coal Age* I have noticed in your magazine a picture of a man who has held one job ten years with one company. We have men at this plant who, I think, top this record. At Sugarite at the present time we have 221 men on pay rolls, which is the lowest number for several years. Out of this number we have one man who has held his present place for 27 consecutive years, two for 17 years, six for 14, two for 13, three for 12, nine for 11, five for 10, two for 9, two for 8 and 46 for over 5 years. These men have worked practically every day the mines operated during all their years of service and have stayed at the same jobs. I think that this is a record that speaks well for our company, as men do not stand by any company as faithfully as this unless their treatment has been such as will warrant it.

A. L. BROCKMAN,
Mine Clerk,
St. Louis, Rocky Mt. & Pacific
Coal Co.
Sugarite, N. M.



Practical Pointers For Electrical And Mechanical Men



Ingenious Mechanic Uses Engine Lathe In Boring Long Axle Boxes

Most mechanics belong to one or the other of two general classes: Those who possess sufficient ingenuity and gumption to get a job done regardless of a lack of efficient equipment, and those who are "stumped" unless abundant tools are ready to hand. The accompanying illustration shows how an ingenious mechanic overcame the handicap occasioned by a lack of special equipment, and did a boring-mill job in an ordinary lathe.

In this instance the axle box of a single-motor, 5-ton locomotive is being repaired. On this machine this box is a steel casting extending the entire width of the locomotive frame. It is pivoted to the frame at the gear end and suspended by springs at the other. The recesses, into which the bearing brasses fit, sometimes become worn and have to be built up by electric or oxyacetylene welding, after which they must be rebored to proper size.

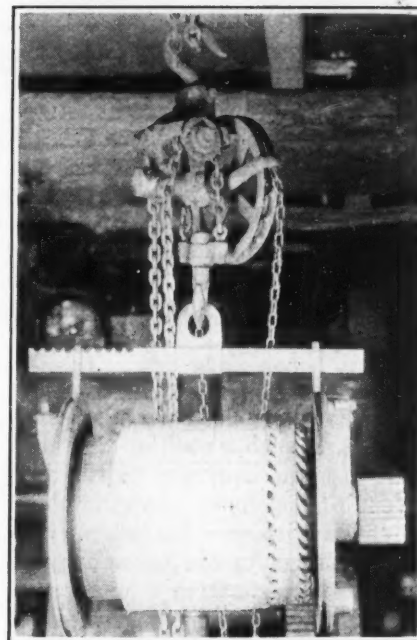
In the reboring operation shown in the illustration, both housings are being machined simultaneously. The work is fastened to the lathe carriage by means of two forged straps,

through each of which pass two 1½-in. bolts. These have long threads and double nuts thus providing a vertical adjustment when the work is being set up on the lathe carriage. The photograph was made in the shop of the Elkhorn Piney Coal Mining Co., at Weeksbury, Ky. A number of locomotives having this type of journal box are used by that company.

Prevents Armature Slipping When Being Lifted

A device often employed for lifting a heavy armature out of a mine locomotive is a wide, flexible, iron band. But when this is slipped under and around the armature and the two ends are hooked to a chain block there is danger that the armature may tilt and slide to one side, injuring a workman. The power department of the Maryland division of the Consolidation Coal Co., Frostburg, Md., has found a way to avoid this danger by the method illustrated.

Radial holes are drilled and tapped in the top of the armature frames. Into these are screwed two ½-in. bolts



Yoke Lifting an Armature

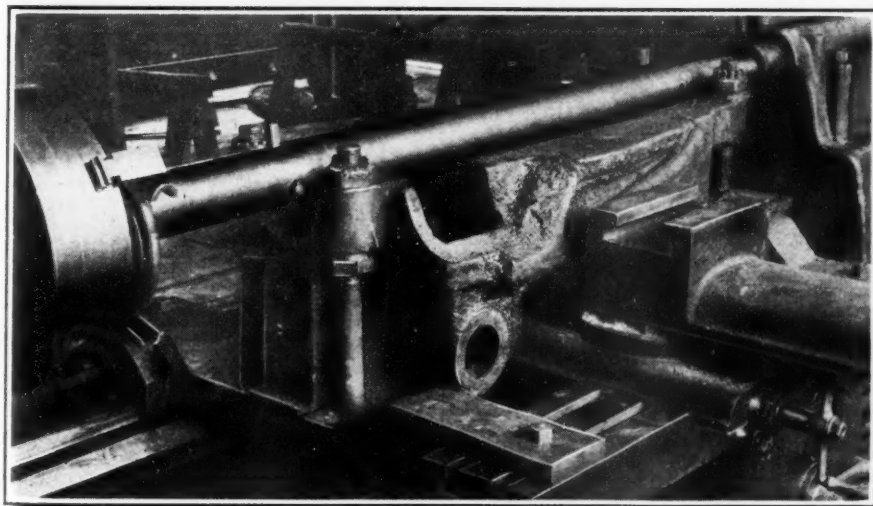
By drilling and tapping a hole in each armature end shield and inserting eyebolts through which the notched suspension yoke is passed, the armature may be lifted without danger of its tilting or slipping in its hangings.

with rectangular eyes. Into these is slid a ½ x 2-in. suspension bar in the center of which is a fixed ring made from a piece of ⅝-in. iron plate. The hook of the chain block engages this ring. The armature is maintained in balance by circular notches pitched on 1-in. centers at one end of the suspension bar. One of these engages the bolt on its side of the armature and thus prevents sliding.

Wire Brush Saves Trouble

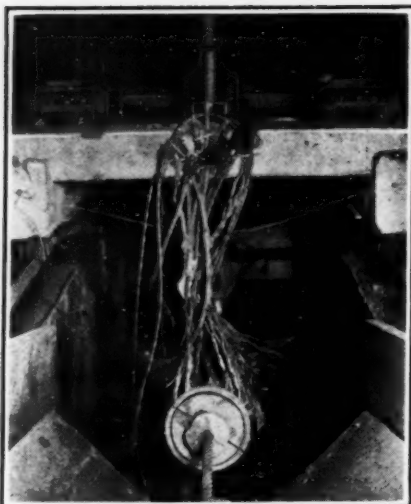
Improbable as it may appear, it happens, nevertheless, that peculiarly shaped lumps of coal will sometimes balance and ride on the cable or disks of a rope-and-button conveyor and cause it to come off the idler sprocket. In order to decrease the chance of a shutdown occurring from this cause, most users of rope-and-button conveyors have found it necessary to install some sort of device for brushing or knocking off any lumps of coal which might otherwise give trouble.

The common method is to suspend



Axle Box Is Clamped to Lathe Carriage

A new axle box would cost approximately \$175; an old worn box can be repaired for less than \$15. The worn housings are first built up by welding, after which they are bored to size. The operation here shown is being performed in an ordinary, 26-in., engine lathe equipped with a double-cutter, home-made, boring bar.



No Coal Can Get By

Ten strands of $\frac{3}{8}$ -in. wire rope stapled to the frame of the counterweighted tension truck on which the idler sprocket is mounted, brush off any lumps of coal which might otherwise get between the rope and sprocket and thus "gum the works."

a number of strands of heavy chain or wire rope close to the idler sprocket, in such a position that they will brush off the conveyor as it leaves the end of the chute. An example of the use of wire rope for this purpose is that shown in the accompanying illustration made from a photograph taken in the twin tippie of mines 5-A and 5-B of the Columbus Mining Co., at Allais, Ky. The photograph was taken from a point in the conveyor a few feet above its discharge end. The short pieces of $\frac{3}{8}$ -in. rope are stapled to the frame of the counterweighted tension truck which carries the idler sprocket. Ten strands of the $\frac{3}{8}$ -in. wire rope are used.

Split Gears Serve Well If Properly Applied

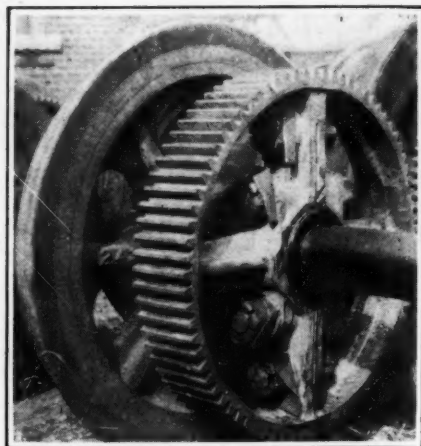
The Island Creek Coal Co. uses split gears exclusively on its electric locomotives. It has never employed the solid type of gear that must be pressed onto or off the axle because it believes that, if properly adjusted, a split gear is no more liable to work loose than a solid one. In addition to this, the split gear possesses the advantage of being easier to remove or replace. If such a gear is carefully fitted and its two halves drawn home it will "stay put" until its teeth are worn out.

According to L. D. Thompson, who is in charge of maintenance of direct-current equipment for the Island Creek Company at Holden, W. Va., a split gear on a locomotive axle will not work loose if it has been fitted and put in place properly. It is no

easy matter, however, to make a good job of fitting such a gear. Bringing the two parts together in a proper manner usually requires both time and effort. If they come together easily it is evidence that the fit on the axle is not snug enough. Sometimes it is necessary to put in a shim or two.

In fitting a split gear, the key is first cut to such a size that it will just seat in the keyway. After this has been fitted the two halves of the gear are drawn up tight, the nuts being held by lock washers. These may be made of $\frac{1}{8}$ -in. iron sheets, one edge being turned down and the other turned up so that one edge grips the nut while the other gets a hold on the wheel.

Sometimes either the key or its ways may be too large or too small. If the key is too large this defect is easily remedied. If the key is too small it may be calked after the gear is drawn up snug, thus insuring a



Split Gears on Driver Axles

Any split gear must be drawn up tight on its shaft and key. A lock washer, consisting of a sheet of steel with one edge turned up beside the nut and the opposite edge turned down over the boss, holds the bolt from loosening.

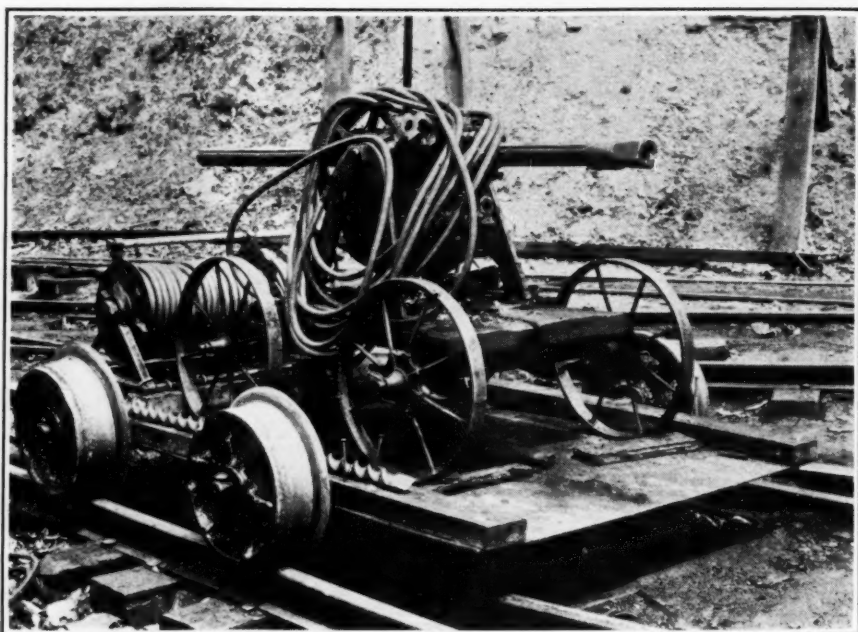
tight fit. When applied in this manner split gears have remained in service without attention for three or four years or until they were worn out.

Buggy-Mounting Makes Heavy Coal Drill Portable

Drilling shot holes in coal as hard as that of the Hazard bed (also known as the No. 6 seam), of Kentucky, requires a drill of appreciable power. Portable electric drills of the larger sizes are equipped with 2½- to 3½-hp. motors and thus form a heavy load for even two men to handle. In order to relieve the coal-drilling and shot-firing crews from this heavy "back work," the Harvey Coal Co.,

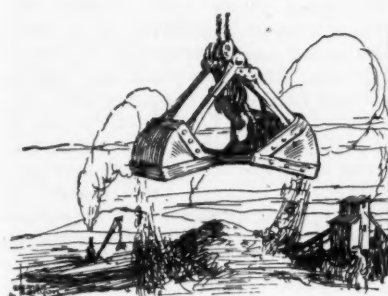
of Harveyton, Ky., has mounted its portable electric drills on small, narrow-gage "buggies," one of which is shown in the accompanying illustration.

A light-weight mine truck is provided for transporting the buggy, cable reel, augers and supplies. The buggy-mounted drill is brought to the working face on the truck, where it is unloaded and wheeled into drilling position. At this mine the Hazard seam averages from 50 to 54 in. in thickness.

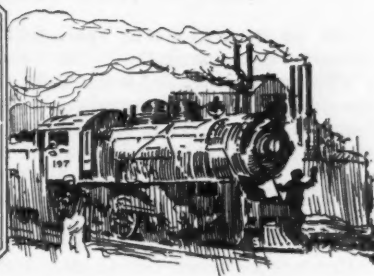


Drill Buggy and Its Truck

Instead of the regulation post or column mounting, which necessitates heavy work in handling and setting up, this electric coal drill has been mounted on a small, light buggy. The drill thus mounted is moved from place to place on a small mine truck.



Production And the Market



Soft-Coal Market Suffers from Summer Torpor; Trade in Anthracite Tapers Off

With the approach of the midyear turn, when a possible change in buying policy in some quarters is hoped for, the bituminous coal market shows few signs of life—certainly no increase. Consumers seem to refuse to be interested in the coal market and as a result the producer's capacity for hoping is being put to a severe test. While prices are weak, production still seems to be less than consumption, which, taken in conjunction with the fact that general business conditions are good for this season, may be taken as a fairly sound basis for the expected upturn.

Unusually warm weather has put a quietus on Midwestern markets, shaft mines having a hard time moving sizes; only screenings being in good demand. A somewhat stronger tone is reported in eastern Kentucky, with a higher tendency in prices, but conditions in western Kentucky are poor. The situation is somewhat improved at the head of the lakes and the trade is more cheerful. The domestic trade in Utah is more active than usual at this season, due to abnormal weather. In Colorado and the Southwest, however, scarcely any coal is moving.

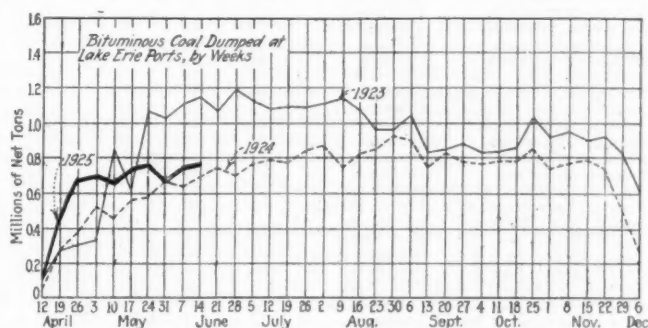
Lagging interest in domestic at Cincinnati has spread to all grades, bringing a softening tendency in prices. A slightly better tone is in evidence at Columbus, some contract inquiries having brightened the outlook. Eastern Ohio is as dull as ever and it is likely that more mines will close. Conditions and prices are unchanged at Pittsburgh. New England and other Eastern markets are more hopeful, but very little actual change has taken place.

Hard-Coal Trade Quiet

Typical summer dullness prevails in the hard-coal market, but to an unusual degree for a year when the

miners' wage agreement ends and a strike is not unlikely. Demand for stove is still good, but the call for egg and pea has eased during the past week. The surplus of chestnut is causing trouble to the producers and the steam sizes also are dragging, some going to storage piles.

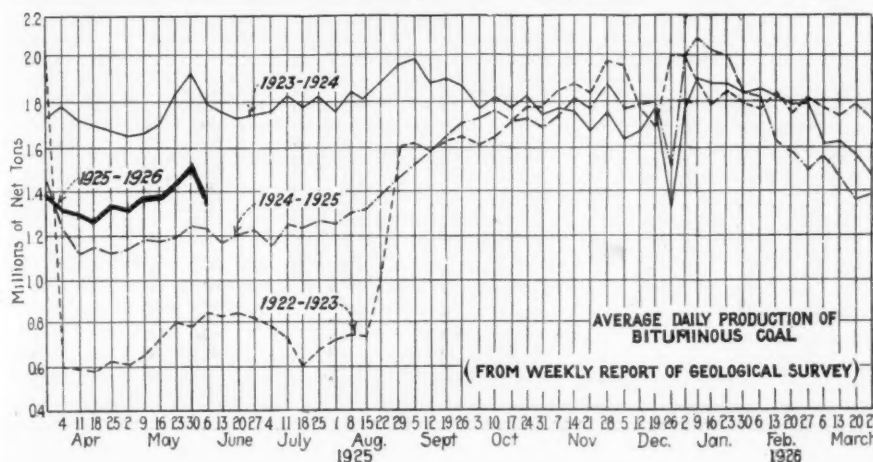
Bituminous coal output in the week ended June 6 is estimated by the Geological Survey at 8,385,000 net tons, compared with 8,141,000 tons in the holiday week



preceding, as shown by revised figures. Anthracite production in the week ended June 6 was 1,674,000 net tons, compared with 1,723,000 tons in the previous week.

Coal Age Index of spot prices of bituminous coal again declined one point during the past week, standing on June 15 at 160, the corresponding price for which is \$1.94.

Dumpings at Lake Erie ports during the week ended June 14, according to the Ore & Coal Exchange, were: Cargo, 709,800 net tons; steamship fuel 40,750 tons—a total of 750,550 net tons, compared with 720,886 tons in the preceding week. Hampton Roads dumpings in the week ended June 11 totaled 395,386 net tons, compared with 421,608 tons in the previous week.



Estimates of Production

(Net Tons)		
BITUMINOUS		
	1924	1925
May 23.....	7,397,000	8,451,000
May 30 (a).....	6,912,000	8,141,000
June 6 (b).....	7,615,000	8,385,000
Daily average.....	1,269,000	1,397,000
Cal. yr. to date (c).....	207,345,000	206,103,000
Daily av. to date.....	1,560,000	1,547,000
ANTHRACITE		
May 23.....	1,850,000	1,750,000
May 30.....	1,294,000	1,723,000
June 6.....	1,846,000	1,674,000
Cal. yr. to date (c).....	39,581,000	38,933,000
COKE		
May 30 (a).....	135,000	132,000
June 6 (b).....	150,000	128,000
Cal. yr. to date (c).....	5,618,000	4,835,000

(a) Revised since last report. (b) Subject to revision. (c) Minus two days' production to equalize number of days in the two years.

Midwest Trade Succumbs to Heat

An unusually warm spell has put the quietus on the Chicago coal market. What few orders had been coming in from retail dealers dwindled to the vanishing point when the mercury soared, retailers having to hold up shipments because they could not find anyone to unload their coal for them. The market on steam coals continues to show no signs of activity. A recent contract placed in Wisconsin for 100,000 tons of 2-in screenings was landed by a west Kentucky operator who bid 90c. and guaranteed 12,700 B.t.u., commercial. The fact that there was 70c. to 85c. a ton difference between the Illinois bids and the west Kentucky bids has caused Illinois operators to do some more thinking along the lines of an adjustment of the Jacksonville contract.

The average rural retail dealer has a normal amount of coal for this time of the year, but his people are showing less interest than usual in stocking early. Freight trains coming into northern Illinois have two cars of West Virginia or Kentucky coal to every one of Illinois or Indiana and many of the larger Midwest roads serving union mines in Illinois and Indiana have sidings filled with empty coal cars standing idle.

Pocahontas prepared coals are perhaps more active in the Chicago market than any other grade of domestic. Anthracite is sluggish. Illinois and Indiana domestic grades are very quiet, and coke is in fair demand. Those of the Poca-

hontas operators who increased prices June 1 have been able to maintain this increase, except in isolated cases where transit coal has had to be sacrificed at from 10 to 15c. off the circular. Prices on eastern Kentucky block are holding unusually firm, something that has never happened before at this time of the year.

Low tide registers now in the southern Illinois high-grade field. The deep-shaft mines that are working are having a hard time moving their sizes. A little of them moves out, but for the most part they are being crushed into screenings to take care of contracts and some mines are crushing mine-run and not screenings at all. Railroad tonnage is light, but a few mines, between commercial and railroad business, manage to get a couple of days a week. There is much destitution among the miners and they are moving away whenever the opportunity presents itself. The strip mines seem to be working and seem to find a ready market for their coal, although they are crushing everything that they get out. There is a good demand for screenings and that is all.

Conditions in the Duquoin field are bad. A couple of mines are working and getting one and two days a week and are crushing coal. In the Mt. Olive field the mines are practically at a standstill. A couple of them are working a day a week or so. Railroad tonnage has dropped off and they are taking care of their contracts by crushing mine-run. No domestic activity at all. In the Standard field a

Current Quotations—Spot Prices, Bituminous Coal—Net Tons, F.O.B. Mines

Low-Volatile, Eastern		Market Quoted	June 16 1924	June 15 1925	June 8 1925	June 15 1925†
Smokeless lump.....	Columbus....	\$3.65	\$2.85	\$2.85	\$2.75@ \$3.00	
Smokeless mine run.....	Columbus....	2.30	1.85	1.85	1.75@ 2.00	
Smokeless screenings.....	Columbus....	1.25	1.40	1.30	1.25@ 1.40	
Smokeless lump.....	Chicago....	3.60	3.00	3.10	3.00@ 3.25	
Smokeless mine run.....	Chicago....	2.00	1.85	1.95	1.85@ 2.10	
Smokeless lump.....	Cincinnati....	3.75	3.10	3.00	2.75@ 3.00	
Smokeless mine run.....	Cincinnati....	1.85	2.00	2.00	1.75@ 2.00	
Smokeless screenings.....	Cincinnati....	1.50	1.30	1.25	1.25	
*Smokeless mine run.....	Boston....	4.30	4.25	4.25	4.15@ 4.40	
Clearfield mine run.....	Boston....	2.00	1.80	1.75	1.65@ 1.90	
Cambria mine run.....	Boston....	2.45	2.10	2.10	2.00@ 2.25	
Somerset mine run.....	Boston....	2.15	1.95	1.95	1.85@ 2.10	
Pool 1 (Navy Standard).....	New York....	2.70	2.55	2.55	2.40@ 2.70	
Pool 1 (Navy Standard).....	Philadelphia....	3.00	2.60	2.60	2.45@ 2.75	
Pool 1 (Navy Standard).....	Baltimore....		1.85	1.85	1.80@ 1.95	
Pool 9 (Super. Low Vol.).....	New York....	2.20	2.00	2.00	1.85@ 2.15	
Pool 9 (Super. Low Vol.).....	Philadelphia....	2.20	2.00	2.00	1.85@ 2.20	
Pool 9 (Super. Low Vol.).....	Baltimore....	1.85	1.75	1.75	1.65@ 1.85	
Pool 10 (H.Gr. Low Vol.).....	New York....	1.85	1.85	1.85	1.75@ 2.00	
Pool 10 (H.Gr. Low Vol.).....	Philadelphia....	1.85	1.70	1.70	1.60@ 1.85	
Pool 10 (H.Gr. Low Vol.).....	Baltimore....	1.65	1.60	1.60	1.55@ 1.65	
Pool 11 (Low Vol.).....	New York....	1.60	1.55	1.55	1.45@ 1.65	
Pool 11 (Low Vol.).....	Philadelphia....	1.50	1.55	1.55	1.50@ 1.60	
Pool 11 (Low Vol.).....	Baltimore....	1.55	1.40	1.40	1.35@ 1.45	
High-Volatile, Eastern		Market Quoted	June 16 1924	June 15 1925	June 8 1925	June 15 1925†
Pool 54-64 (Gas and St.).....	New York....	1.50	1.55	1.50	1.40@ 1.60	
Pool 54-64 (Gas and St.).....	Philadelphia....	1.55	1.50	1.50	1.45@ 1.65	
Pool 54-64 (Gas and St.).....	Baltimore....	1.50	1.45	1.45	1.40@ 1.50	
Pittsburgh sec'd gas.....	Pittsburgh....	2.40	2.40	2.40	2.30@ 2.50	
Pittsburgh gas mine run.....	Pittsburgh....	2.10	2.15	2.15	2.10@ 2.25	
Pittsburgh mine run (St.).....	Pittsburgh....	1.85	1.95	1.95	1.90@ 2.00	
Pittsburgh slack (Gas).....	Pittsburgh....	1.35	1.55	1.55	1.40@ 1.60	
Kanawha lump.....	Columbus....		2.10	2.10	2.00@ 2.25	
Kanawha mine run.....	Columbus....		1.40	1.40	1.35@ 1.50	
Kanawha screenings.....	Columbus....		1.10	1.10	1.00@ 1.25	
W. Va. lump.....	Cincinnati....	2.25	2.15	2.25	2.00@ 2.25	
W. Va. gas mine run.....	Cincinnati....	1.35	1.50	1.50	1.40@ 1.60	
W. Va. steam mine run.....	Cincinnati....	1.35	1.35	1.35	1.35@ 1.50	
W. Va. screenings.....	Cincinnati....	.85	1.10	1.05	1.10@ 1.15	
Hoeking lump.....	Columbus....	2.45	2.25	2.15	2.00@ 2.35	
Hoeking mine run.....	Columbus....	1.70	1.50	1.50	1.40@ 1.65	
Hoeking screenings.....	Columbus....	1.35	1.30	1.30	1.20@ 1.40	
Pitts. No. 8 lump.....	Cleveland....	2.40	2.25	2.25	1.90@ 2.50	
Pitts. No. 8 mine run.....	Cleveland....	1.85	1.90	1.85	1.85@ 1.90	
Pitts. No. 8 screenings.....	Cleveland....	1.15	1.40	1.35	1.35@ 1.45	
Midwest		Market Quoted	June 16 1924	June 15 1925	June 8 1925	June 15 1925†
Franklin, Ill. lump.....	Chicago....	\$2.75	\$2.60	\$2.60	\$2.50@ \$2.75	
Franklin, Ill. mine run.....	Chicago....	2.35	2.35	2.35	2.25@ 2.50	
Franklin, Ill. screenings.....	Chicago....	1.90	2.10	2.10	2.00@ 2.25	
Central, Ill. lump.....	Chicago....	2.35	2.35	2.35	2.25@ 2.50	
Central, Ill. mine run.....	Chicago....	2.10	2.10	2.10	2.00@ 2.25	
Central, Ill. screenings.....	Chicago....	1.60	1.85	1.75	1.65@ 1.90	
Ind. 4th Vein lump.....	Chicago....	2.75	2.60	2.60	2.50@ 2.75	
Ind. 4th Vein mine run.....	Chicago....	2.35	2.35	2.35	2.25@ 2.50	
Ind. 4th Vein screenings.....	Chicago....	1.80	2.00	1.90	1.80@ 1.90	
Ind. 5th Vein lump.....	Chicago....	2.35	2.25	2.25	2.15@ 2.40	
Ind. 5th Vein mine run.....	Chicago....	2.10	1.95	1.95	1.85@ 2.10	
Ind. 5th Vein screenings.....	Chicago....	1.60	1.60	1.50	1.40@ 1.60	
Mt. Olive lump.....	St. Louis....	2.85	2.50	2.50	2.50	
Mt. Olive mine run.....	St. Louis....	2.50	2.25	2.25	2.25	
Mt. Olive screenings.....	St. Louis....	2.00	1.75	1.75	1.75	
Standard lump.....	St. Louis....	2.15	2.25	2.25	2.25	
Standard mine run.....	St. Louis....	1.80	1.80	1.80	1.75@ 1.90	
Standard screenings.....	St. Louis....	1.50	1.70	1.70	1.65@ 1.75	
West Ky. block†.....	Louisville....	2.05	1.60	1.60	1.40@ 1.65	
West Ky. mine run.....	Louisville....	1.50	1.30	1.30	1.10@ 1.25	
West Ky. screenings.....	Louisville....	1.50	1.15	1.15	1.10@ 1.25	
West Ky. block†.....	Chicago....	2.00	2.00	2.00	1.90@ 2.15	
West Ky. mine run.....	Chicago....	1.50	1.30	1.30	1.15@ 1.50	
South and Southwest		Market Quoted	June 16 1924	June 15 1925	June 8 1925	June 15 1925†
Big Seam lump.....	Birmingham....	3.00	2.40	2.40	2.00@ 2.25	
Big Seam mine run.....	Birmingham....	1.85	1.75	1.75	1.50@ 2.00	
Big Seam (washed).....	Birmingham....	2.00	1.85	1.85	1.75@ 2.00	
S. E. Ky. block†.....	Chicago....	2.10	2.25	2.25	2.15@ 2.40	
S. E. Ky. mine run.....	Chicago....	1.50	1.70	1.70	1.60@ 1.85	
S. E. Ky. block†.....	Louisville....	2.10	2.20	2.20	2.00@ 2.50	
S. E. Ky. mine run.....	Louisville....	1.55	1.30	1.30	1.35@ 1.65	
S. E. Ky. screenings.....	Louisville....	1.05	1.05	1.05	1.00@ 1.25	
S. E. Ky. block†.....	Cincinnati....	2.25	2.30	2.35	2.25	
S. E. Ky. mine run.....	Cincinnati....	1.50	1.45	1.45	1.35@ 1.60	
S. E. Ky. screenings.....	Cincinnati....	.85	1.05	1.05	1.10@ 1.15	
Kansas lump.....	Kansas City....	4.50	3.85	4.00	4.00	
Kansas mine run.....	Kansas City....	3.50	2.85	3.00	3.00	
Kansas screenings.....	Kansas City....	2.50	2.60	2.60	2.50@ 2.75	

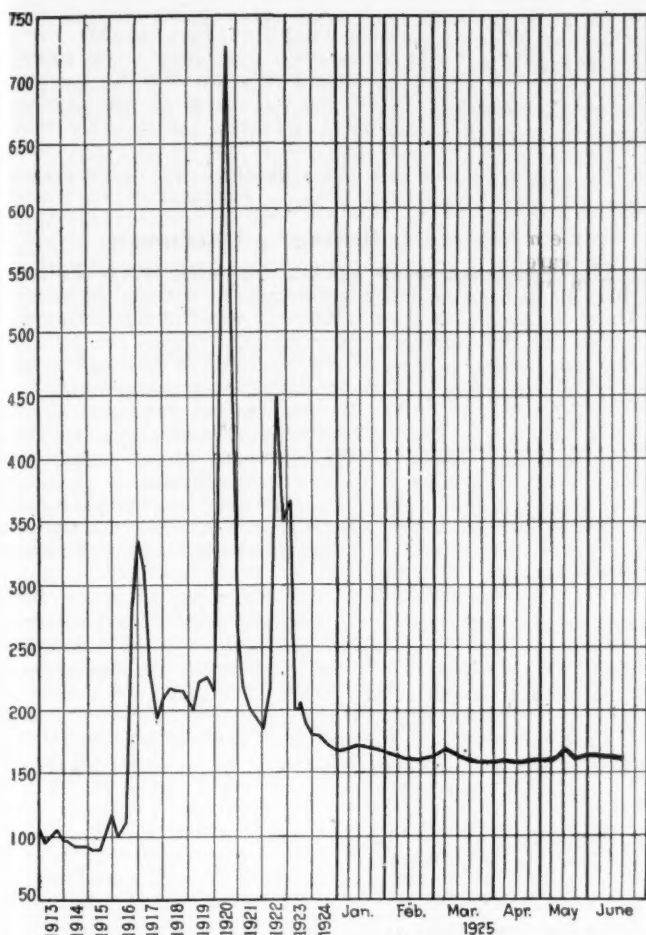
* Gross tons, f.o.b. vessel, Hampton Roads.

† Advances over previous week shown in heavy type, declines in italics. The term block is used instead of lump in order to conform to local practice, but the same coal is being quoted as heretofore.

Current Quotations—Spot Prices, Anthracite—Gross Tons, F.O.B. Mines

		Market Quoted	Freight Rates	June 16, 1924		June 8, 1925		June 15, 1925†	
				Independent	Company	Independent	Company	Independent	Company
Broken.....	New York....	\$2.34			\$8.00@ \$8.85		\$8.10@ \$8.70		\$8.10@ \$8.70
Broken.....	Philadelphia....	2.39			8.70@ 8.85		8.60		8.60
Egg.....	New York....	2.34		\$8.75@ \$9.25	8.45@ 8.85	\$8.50@ \$8.85	8.45@ 8.70	\$8.50@ \$8.75	8.45@ 8.70
Egg.....	Philadelphia....	2.39		8.80@ 9.60	8.80@ 8.85	8.70@ 9.30	8.50@ 8.70	8.70@ 9.30	8.50@ 8.70
Egg.....	Chicago....	5.06		7.86@ 8.00	7.83@ 7.90	7.86@ 8.50	7.44@ 8.18	7.86@ 8.50	7.44@ 8.18
Stove.....	New York....	2.34		9.00@ 9.25	8.45@ 9.10	8.90@ 9.25	8.85@ 9.20	8.90@ 9.25	8.95@ 9.20
Stove.....	Philadelphia....	2.39		9.15@ 9.80	8.85@ 9.00	9.30@ 9.65	8.95@ 9.10	9.30@ 9.65	8.95@ 9.10
Stove.....	Chicago....	5.06		8.17@ 8.30	8.13@ 8.23	8.22@ 8.70	7.92@ 8.10	8.22@ 8.70	7.92@ 8.10
Chestnut.....	New York....	2.34		8.75@ 9.25	8.45@ 8.95	8.25@ 8.50	8.45@ 8.70	8.35@ 8.65	8.45@ 8.70
Chestnut.....	Philadelphia....	2.39		8.85@ 9.70	8.80@ 8.85	8.70@ 9.55	8.60@ 8.70	8.70@ 9.55	8.60@ 8.70
Chestnut.....	Chicago....	5.06		8.00@ 8.13	8.08@ 8.13	8.14@ 8.35	7.69@ 8.00	8.14@ 8.35	7.69@ 8.00
Pen.....	New York....	2.22		5.00@ 5.50	5.50@ 6.00	5.00@ 5.50	5.00@ 5.70	4.75@ 6.60	5.00@ 5.70
Pen.....	Philadelphia....	2.14		5.75@ 6.25	5.75@ 6.00	5.50@ 5.75	5.00@ 5.40	5.50@ 5.75	5.00@ 5.40
Pen.....	Chicago....	4.79		5.13@ 5.45	5.36@ 5.91	4.91@ 5.36	4.91@ 5.36	4.91@ 5.36	4.69@ 5.00
Buckwheat No. 1.....	New York....	2.22		2.15@ 3.00	3.00@ 3.15	2.00@ 2.50	2.50	2.00@ 2.50	2.50
Buckwheat No. 1.....	Philadelphia....	2.14		2.50@ 3.00	3.00	2.15@ 2.75	2.50	2.15@ 2.75	2.50
Rice.....	New York....	2.22		1.75@ 2.25	2.25	1.75@ 2.00	2.00	1.75@ 2.00	2.00
Rice.....	Philadelphia....	2.14		2.00@ 2.25	2.25	1.85@ 2.00	2.00	1.85@ 2.00	2.00
Barley.....	New York....	2.22		1.25@ 1.50	1.50	1.35@ 1.50	1.50	1.40@ 1.50	1.50
Barley.....	Philadelphia....	2.14		1.50	1.50	1.40@ 1.50	1.50	1.40@ 1.50	1.50
Birdseye.....	New York....	2.22			1.60	1.60@ 1.75	1.60	1.60@ 1.65	1.60

* Net tons, f.o.b. mines. † Advances over previous week shown in heavy type; declines in italics.



Coal Age Index of Spot Prices of Bituminous Coal F.O.B. Mines

Index	1925			1924
	June 15	June 8	June 1	June 16
Weighted averaged price.	160	161	162	166
	\$1.94	\$1.95	\$1.96	\$2.01

This diagram shows the relative, not the actual, prices on fourteen coals, representative of nearly 90 per cent of the bituminous output of the United States, weighted first with respect to the proportions each of slack, prepared and run-of-mine normally shipped, and, second, with respect to the tonnage of each normally produced. The average thus obtained was compared with the average for the twelve months ended June, 1914, as 100, after the manner adopted in the report on "Prices of Coal and Coke, 1913-1918," published by the Geological Survey and the War Industries Board.

little lump is moving for apartment-house storage. Steam is just fairly good and the mines are getting from one to two days a week—the few that are working. Railroad tonnage is fairly good, considering. Year by year the operators feel the loss of what was at one time a heavy tonnage of coal for threshing that moved out at this time. The gas engine has done away with this.

At St. Louis coal is at a standstill. Dealers are not moving any for domestic use and the yards are pretty well loaded. The tonnage of anthracite this year has dropped off to an extent that is almost unbelievable. Dealers who up to June 1 last year handled as many as fifty cars have taken less than ten this year and don't expect to have much call for anthracite from now on. They assert that oil principally has been substituted with some coke. Country domestic is unusually quiet. A little country threshing coal is moving—a few cars here and there—and locally wagonload steam is down to the minimum, with carload steam good only in places, and for screenings entirely.

Conditions Mixed in Kentucky

Demand in eastern Kentucky is reported to be somewhat stronger, and there is a tendency to higher prices in that field as a result of some of the larger mines being fairly busy on lake shipments and big contract deliveries. Some very fair railroad buying also is reported. Some mines are now quoting best block coal at \$2.50 a ton, and are said to be refusing to sell for less, although there is plenty of tonnage available at \$2.25@2.35 and some selling as low as \$2. Lump and egg are quoted at around \$1.75@2.10, with some as low as \$1.65. Mine-run is firmer at around \$1.35 to

\$1.65 for good grade, and screenings are steady at from \$1 to \$1.25.

Western Kentucky conditions are poor just now, as there isn't any big market. Mine-run is selling down to around \$1 in some instances, with plenty available at \$1.10@1.25, which is the price also on screenings. Steam nut sells at the same level. Domestic sizes, including nut, egg, lump and block, are selling all the way from \$1.40 to \$1.65, and the market is weak, with demand poor.

Lake and steam movements are now fairly good. General industrial demand is active, while utility, brick, cement and other plant consumers are buying quite well, and railroad consumption is good. Hot weather also has brought more active demand from ice and cold storage interests.

Northwest Trade Cheerier

Indications that the coal trade at Duluth is not so much below normal as many have been led to believe are contained in the army engineer's statement of cars shipped during May. In all 12,302 cars went out as compared with only 9,210 in April and 13,728 in May of last year.

Thirty-five cargoes arrived by lake this week, of which only three were anthracite. This falling off is due in the main to the general lack of demand for hard coal throughout the territory. Dealers are buying only to cover orders on their books. Thirteen cargoes are reported on the way, of which only one is hard coal.

In May, 1,239,573 tons was landed here. Of this 214,006 was hard coal and 1,025,567 was soft coal. This brings the total for the season to 1,960,959 tons, of which 385,378 is hard coal and 1,575,581 tons is soft coal. Hard coal has increased 220,746 tons over last season and soft coal 744,052 tons.

Better demand has materialized from the mining industries, and as a result much more coal is going to the iron ranges. This has cheered the trade materially. Other good features are the fact that some of the railroads are bringing up coal for storage and that there has been no change in Ford selling methods despite persistent rumors. The Ford dock brought up two cargoes last week.

The market in Pocahontas is weak, having dropped to \$7 for lump, egg and stove; \$5.25 for mine-run and \$4.25 for screenings. All other prices are the same, hard and soft, except that buckwheat has dropped to \$6.50.

The Milwaukee coal market is in the doldrums of extreme summer quiet. Dock managers are interested in the reception of fresh stock for another season, and retailers are striving to get consumers to fill bins for the winter of 1925-26. The industries, of course, are steady consumers in normal quantities. Milwaukee's coal receipts for the season up to June 1 by cargo, by car ferry and by all-rail routes total 1,202,061 tons—325,102 tons of anthracite and 876,959 tons of bituminous coal. The receipts by cargo during June up to the 11th total 188,389 tons—50,640 tons of anthracite and 137,758 tons of bituminous coal.

Not Much Coal Moves in Southeast

Except for the industrial demand, which remains fairly constant on contract, virtually no coal is moving in the Southwest. There is a light threshing demand, but not enough to affect the market. Operators so far have avoided much of a surplus by curtailing production. Many have installed crushers in the last few months, and by crushing shovel production have avoided the accumulation of an immense prepared-size surplus in the process of supplying the screenings demand.

Very little, if any, improvement has taken place in the domestic consumption of coal in Colorado. Orders are almost at a standstill, as consumers are buying from hand to mouth. No storage orders to speak of are being booked, even with lower prices caused by the reduction in wages and predicated upon the reductions in freight rates. The industry is operating at an average of two days a week and over 18 per cent of the mines are shut down for want of orders. No hope is held out for improvement until August. Practically all the mines in the state are now on the 1917 scale and no labor disturbances are being encountered. In fact there is an oversupply of labor. Prices are unchanged.

In Utah the domestic coal market is more active than usual at this season on account of abnormal weather conditions. Outside of the mining and smelting and cement industries industrials are taking very little coal. The cement plants are taking more coal than they were, but the

mines and smelters are taking a little less, if anything. The sugar companies have purchased a little coal this season, but they have supplies on hand purchased last year in anticipation of a normal campaign, which did not materialize. This industry is not expected to be actively in the market for coal for a month or six weeks, and then its orders cannot be heavy. Railroads are taking only enough coal for current use. The slack market continues easy. Prices are firm at \$1.25. Other coal prices are where they were last fall, and a change is not likely for some months to come, if then. There is not much contracting right now. The State of Idaho has asked for bids from Utah on 16,000 tons of lump, nut, mine-run and slack. Retail yards outside of those owned by the mines are storing very little coal and are not likely to do so for the next few months.

Torpor Hits Cincinnati Market

Domestic business lags at Cincinnati and this seeming lack of interest has spread over all of the list. While Kentuckians have set their June mark on block at \$2.25 a ton it has been hard pulling to maintain this price. West Virginia quotation on 4-in. and larger block held up fairly well for a time at \$2.25 but has dropped back so that the market is somewhere between that and a low of \$2.

In the smokeless market, lump has dropped back so that \$3 is now high, with egg selling around \$2.75. Stove size is \$2.25@\$2.50 and nut is \$2@\$2.25. For the first time in weeks there has been a split quotation on mine-run, the low being around \$1.75 and the asked price \$2. Easiness of the Chicago and inland markets is given as the cause for this. Slack seems to have berthed at \$1.25.

Lake buying of 2-in. bituminous and egg sizes holds this at a better level. The former holds at a \$1.75 low and egg goes all the way up to \$2. Better buying of stove size at the head of the lakes and a scarcity of the make is one contributing cause. Mine-run has held the little gain that was noted last week, and slack, after showing a tendency to weakness, has come back to the short spread of \$1.10@\$1.15.

River business has eased off to some 20,000 tons down a week. Low water is the cause. The government is giving "splashes," or short waves, through the locks about twice a week to help navigation.

At Columbus the tone of coal trade is a little better this week. The steam trade has increased somewhat, but consumers are still holding off on contracts and trying to reduce their stocks. There has been some contract inquiry in the past week, which makes coal men feel more optimistic about the outcome of the whole situation. Utilities have been good buyers right along. Most of the railroad contracts have been let. Screenings are probably the best sellers at this time, due largely to the reduction in the production of lump. Egg coal also is finding some ready buyers. Domestic trade is poor.

Though union representatives have been active in the southern Ohio field of late, a number of mines are operating on the 1917 scale. Output is about 25 per cent of capacity. The lake trade is getting more brisk right along, and a goodly number of contracts are being filled.

In the light of the present status of the coal trade in eastern Ohio, so far as Ohio coal is concerned, it is expected that additional mines will close because of no market at prices that would enable them to continue operations.

The steam trade in and around northern Ohio is now being rather freely supplied with stripper coal from eastern and central Ohio at 10c. to 25c. per ton lower than the deep mines are able to sell it. Spot prices on deep-mine Ohio coal show no change whatsoever nor is there any disposition to cut prices any further. There is practically no

activity in domestic coal, the retail yards buying small lots of smokeless bituminous and anthracite only.

Operators and jobbers continue pessimistic over the outlook for the immediate future, the only favorable factor being the possibility of a decision soon in the matter of rates on Lake cargo coal from the mines to the docks.

Production in the eastern Ohio No. 8 district during week ended June 6 was only 206,000 tons, the lowest for any full week's operation in several years.

Not Much Buying at Pittsburgh

The Pittsburgh coal market continues very dull, and there have been no news developments outside the market. There is much talk about what will occur in connection with anthracite, but opinions vary widely. There are no signs that any of the miners in this district are disposed to petition for a reopening of mines with a wage reduction.

Coal consumption has been good and promises to continue relatively good. Steel ingot production has been approximately stationary in the past three weeks, with mills averaging fully a 70 per cent operation. It seems improbable that even July will see a rate below 60 per cent.

Quotations are unchanged except that slack has dropped about 10c., being now at \$1.30@\$1.40 for steam and \$1.40@\$1.50 for gas.

Owing to the recent hot spell, there has been very little demand for coal at Toronto and at present the local retail market is quiet. It is expected to pick up soon, however, as householders probably will begin filling their cellars against a possible shortage in the event of a strike of anthracite miners, which is thought likely in some quarters. The price of slack has been increased from \$5 to \$5.60, on account of a raise in the duty. Other prices are as follows: Anthracite, \$15; Pennsylvania smokeless, \$5.85; steam lump, \$6.40; coke, \$12.

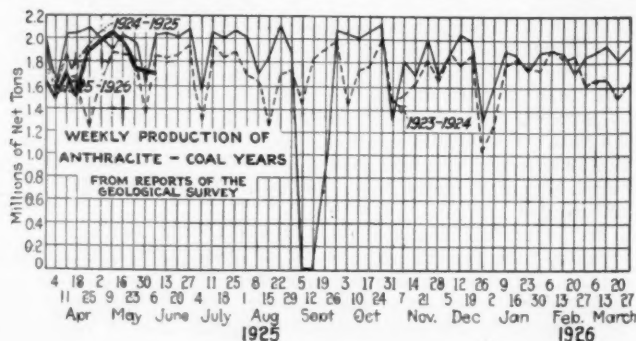
One day is just like another in the bituminous trade at Buffalo. A fair amount of coal is moving, but so long as the supply exceeds the demand there is little profit for the seller, and the producer is likely to lose in two directions. The local wholesaler is still able to get a small profit out of the bituminous trade, but it is plain that everybody is waiting for something to turn up that will afford some sort of relief. Bituminous prices remain at \$1.60@\$1.75 for Fairmont lump, \$1.40@\$1.50 for mine run and \$1.25@\$1.40 for slack; \$2.25@\$2.50 for Youghiogeny gas lump, \$2@\$2.25 for Pittsburgh and No. 8 steam lump, \$1.40@\$1.60 for slack; and \$1.75@\$2 for Allegheny Valley mine run.

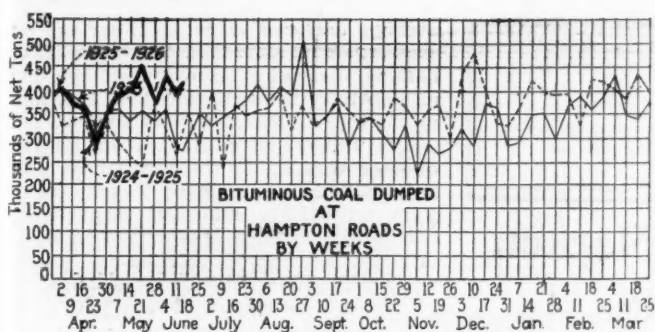
New England More Hopeful

There is perhaps a slightly more hopeful attitude in the steam trade in New England in regard to business later in the season, but at the moment there is no tangible evidence of relief in the generally depressed situation. Both at wholesale and retail, particularly in the cities, there is the keenest competition for what current business can be had, and the price level everywhere is on the lowest basis that costs will permit. Even on deliveries that extend over several months the retailers are trucking coal for considerable distances at less than \$6 per net ton, while wholesale factors are whittling down their commissions to a few cents per ton in order to move coal. Receipts are not exerting the same pressure that was the case a few weeks ago, but operating interests are urging heavier shipments with a view to cutting down somewhat the cost of production.

The scale of prices for spot coal f.o.b. vessel at Hampton Roads continues about the same as reported a week ago. There is more of a seesaw in quotations as the agencies deal with their own special situations as to coal at and en route to the piers, but practically all the time there are some who adhere rigidly to \$4.40 while others are quietly offering No. 1 Navy standard down to 25c. less. The general policy seems to be to shade prices when individual emergencies make it seem necessary. It is therefore fair to say that best grades of Pocahontas and New River can still be bought at \$4.15@\$4.40, with less favorably known coal to be had as low as \$4 flat.

For inland delivery at Boston and Providence the range of price is perhaps a bit firmer than previously reported; \$5.25 seems a minimum figure now, while most of those with rehandling plants are asking up to \$5.50. A possible order for a few hundred tons, however, would bring a regiment of salesmen with great eagerness to pare down the asking price. Not for years has there been such scrambling for every little order that comes into the market.





Situation Brighter at New York

The bituminous situation at New York is looking up. Conditions have become better in the last two weeks but not enough to change prices. Operators and shippers are depending mostly upon contracts to move their output but there is a slightly improved spot market. The market continues spotty, however.

Producers of the better grades are getting the bulk of the new business and competition for these coals is growing keener. Reports from the Southern coal fields indicate a slowing up in coal buying for railroads, although at the present time a fair volume is moving.

Quiet rules the Philadelphia soft-coal market. Although in the face of production figures showing an increase in tonnage, the local trade admit that they believe that they have passed through the worst for this year, the improvement is so slight that no one is able to work up any enthusiasm about it.

Most of the coal now coming here is of non-union production, but prices have not fallen, as some thought they might with the addition of a larger non-union tonnage.

Among gas coals the only active element is slack and there seems no likelihood of getting caught up on this size, as there is almost a weekly increase of consumers seeking this fuel.

Everything remains quiet at tide, although indications continue that bunker business should improve, as the business of the port is increasing, as shown by recent shipping statements by local bureaus.

The soft-coal situation at Baltimore remains practically unchanged. During the past week contracts for 31,000 tons of bituminous coal for municipal departments were given out by the Board of Awards at a price paid for coal of an inferior grade last year. During the entire month of May only two vessels cleared from this port with combined shipments of cargo coal totaling 7,720 tons and 400 tons additional in bunkers. In the first five days of June two vessels cleared with coal cargoes totaling 15,754 tons and an additional 1,445 tons of bunkers.

At Birmingham no particular change in the market is discernible. Buying is still on a restricted basis so far as the open market is concerned, consumers buying just what is needed to get by with. Two railroad contracts were negotiated in the past week, the Southern Ry. buying about 1,400,000 tons and the Western of Alabama approximately 84,000 tons of Big Seam nut and a small amount of washed slack for delivery over the next twelve months. General industrial consumption shows no improvement, though textile and cement plants continue to operate at capacity and are steady consumers. The Alabama Power Co. is buying some coal for its steam plants, which it is obliged to operate on a heavier schedule of late on account of low water affecting the efficiency of its hydro-electric plants. No improvement is shown in the bunker trade, which has been quiet for the past two or three months.

The domestic market is still very sluggish and mines are having trouble in disposing of current production.

Quotations on all grades of coal except the domestic sizes of low quality are steady and stable and there has been no variation of note in schedules for several weeks.

Not Much Activity in Hard Coal

There is not much activity in the anthracite market at New York. Demand for egg, chestnut and pea coals is lighter than a week ago, stove being the bright spot in the situation. Chestnut can be had at about 25c. lower than when taken in conjunction with stove coal. Consumers are not showing a disposition to put in winter coal at this time, but conditions are expected to improve as soon as some

definite action is taken by the miners late this month regarding a new wage agreement.

Retail conditions are not normal for this season of the year, especially for a year when the miners' wage agreement ends. The exodus to the country of house owners has been earlier than usual owing to the excessive heat and retail dealers are delayed in making deliveries.

The steam coals are in bad shape. Buckwheat No. 1 is the worst off and rice is a close second. Barley is not moving freely, but is in better condition than either buckwheat or rice.

At this moment the Philadelphia market is extremely quiet, and the operators have reached the point where they can no longer continue the mines at full production. Some in the trade are inclined to think that with the passing of June there will be a resumption of consumer buying, especially if news of the meetings of the miners and operators are not altogether favorable to the continuance of work on Sept. 1. In the meantime the retail yards are for the most part kept well stocked, as there seems to be no real movement toward a cut in independent prices. There have been some vague rumors that these prices have been offered on a level with company quotations, but as yet it has not been possible to entirely confirm this.

The larger companies are quietly admitting that they are feeling the effects of competition with cheaper fuel, such as soft coal, particularly in the Middle West. Much the same is true of New England.

Stove and egg lead in demand, although purchasers are able to get either without any difficulty. The surplusage of nut continues unabated and is causing much trouble to the producers. Pea is well taken, although company shippers have a big stock in the storage yards which they are anxious to move. Steam sizes are draggy, and the companies are again putting some of the production into the storage yards, although with reduced working time at the mines this is likely to be reduced greatly.

Reports from Baltimore hard-coal dealers indicate that ordering is practically at a standstill, which is not an unusual feature of the situation at this time of the year. Plenty of stock is on hand to meet demands.

The trade is dull everywhere in Buffalo, probably more so than it has been in a long time. Consumers do not care to lay out their money now for something not wanted till fall, thinking that it is not risky to take a chance against a strike or any other possible cause of shortage. Considerable disappointment is expressed by the trade over the failure to get consumers interested in the buckwheat size.

The lake trade is quiet, shipments for the week being only 53,300 tons, of which 21,000 tons cleared for Milwaukee, 13,800 tons for Chicago, 7,200 tons for Superior, 6,600 tons for Sheboygan, 3,500 tons for Marquette and 1,200 tons for Racine.

Coke Prices at Low Level

In the Connellsville coke market furnace coke for delivery over third quarter can be bought at \$3 flat, which is a very low, the lowest to which contract coke went a year ago, when there were the same wage rates. One new contract was at above \$3, but was for very special coke. It is admitted by producers that fourth-quarter could be sold if necessary at not much over the third-quarter price. Contracts are invariably "requirement" contracts, hence there must be assurance that the furnace will run.

The spot furnace coke market, recently quotable practically nominal at \$3, has been developed by very small lot sales at \$2.80@2.85. There has been no furnace buying for some time, the small-lot buyers being non-metallurgical, one to five carloads at a time.

Spot foundry coke is moving in a fair way, as of late, still quotable at \$3.75@4.25 for standard, but with sales at \$4.25 quite unusual. Not a little 48-hour coke is being sold for foundry use at \$3.50.

Car Loadings, Surpluses and Shortages

	Cars Loaded	
	All Cars	Coal Cars
Week ended May 30, 1925.....	920,514	148,700
Previous week.....	986,209	151,548
Week ended May 31, 1924.....	820,551	120,210

	Surplus Cars		Car Shortage
	All Cars	Coal Cars	
May 31, 1925.....	323,624	133,559	
May 22, 1925.....	327,216	134,669	
May 31, 1924.....	338,526	168,913	

Foreign Market And Export News

New Business Scarce in British Market; More Mines Likely to Close

The Welsh steam coal outlook is not living up to promises, new business having declined again. The slackening is attributed to an optimistic feeling that the threatened strike of miners will not take place. Colliery salesmen had been anticipating a stoppage of the collieries and were quoting higher figures for June delivery, but buyers show a disposition to hold back orders in the hope of a drop in figures. None of the closed pits have arranged to re-open; on the contrary, notices have been given at several more collieries. At the Bedwas Collieries the miners have increased output from 11,200 tons per week to 12,300 tons per week at a small extra cost. Production at the Universal Collieries also has been materially boosted.

The slight improvement at Newcastle has not been maintained. For June loading fitters continue to quote current prices, but without success, and it seems certain that concessions will have to be made to obtain new business. Quotations for purely prompt shipment meanwhile hardly represent the real state of the market. Coke continues sluggish. Interest centers mainly in the order of the Swedish State Railways for 200,000 tons to be delivered over the remainder of the Baltic season. It is understood that the prices of this business have been cut to the finest point. Shipments for May were disappointing. It is reported that notices have been served to over 2,000 men at the Shotton pit of the Horden Collieries to cease work.

Output by British coal mines in the week ended May 30, a cable to *Coal Age* states, totaled 4,680,000 tons, compared with 4,860,000 tons the week before.

Hampton Roads Market Holds Firm Tone

Business at Hampton Roads was little changed last week, movement of coal to Canada being the big feature of the situation. Supplies at tidewater were fairly good and the general tone of the market was somewhat stronger than the week before. The strike in the Cape Breton fields has drawn upon this

port for heavy movements, and the outlook for this business continues good. Other foreign trade is barely holding its own, while bunkering is fair and general coastwise business moderate.

Demand Weakens Steadily In French Market

Demand both for industrial and household fuel in the French market gets weaker daily, and tonnage is accumulating at the mines. This was pointed out recently to miners of the North and Pas-de-Calais when they urged the continuance of the 40 per cent allowance for the high cost of living.

During the first twenty-six days of May the O.R.C.A. received from the Ruhr 231,386 tons of coke, or an average of 8,900 tons daily, which is much below normal.

British Coal Output and Exports Fall Away

Coal production in Great Britain in the first quarter of 1925 totaled 66,157,000 tons, compared with 71,306,000 tons in the corresponding quarter of 1924, according to the Bankers Trust Co. of New York. Coal shipped abroad, cargo and bunker, was only 18,350,000 tons, the lowest figure recorded for any quarter since the end of 1921.

The average number of wage earners employed during the quarter was 1,134,200. At the end of January 1,141,000 men were employed, against 1,137,000 on Dec. 27, 1924. Since January there has been a marked decrease in the number of employees, the number on March 28 being only 1,122,700. Out of 78 possible working days coal was raised on 67.87 days, or an average of 5.22 days a week. This is an improvement on the previous 13 weeks, when coal was raised on 5.07 days a week, but worse than a year ago, when the figure was 5.48 days per week. The quantity of coal available for consumption in Great Britain during the quarter was 47,250,000 tons, or 2,000,000 tons less than in the corresponding period of 1924.

Prices for coal have been falling during the quarter. On Dec. 25 last the

average declared value f.o.b. per ton on coal exported was 21s. 7d. This rate held at the end of January; at the end of February the rate was 20s. 11d, and at the end of March it was 20s. 9d.

The number of casualties during the quarter was 1,255; the number of persons killed 313. These figures compare with 1,316 and 310 respectively for the corresponding period of 1924.

Export Clearances, Week Ended June 13, 1925

FROM HAMPTON ROADS	
For Brazil:	Tons
Br. Str. Megna, for Rio de Janeiro	7,667
Br. Str. H. H. Asquith, for Rio de Janeiro	6,722
Br. Str. North Cornwall, for Rio de Janeiro	6,330
For Italy:	
Ital. Str. Anna C. for Venice	3,011
Ital. Str. Sile, for Porto Ferrajo	9,511
Span. Str. Aritz Mendi, for Porto Ferrajo	7,254
For Canada:	
Ital. Str. Valnegr, for Montreal	5,539
Ital. Str. Verde, for Montreal	6,334
Dutch Str. Stad Amsterdam, for Montreal	5,376
Nor. Str. Sverre, for Levis	5,201
Br. Str. Twickenham, for Quebec	7,113
Nor. Str. Thorsdal, for Three Rivers	3,268
Br. Str. Rose Castle, for Montreal	10,348
For Newfoundland:	
Br. Str. Wabana, for Wabana	7,211
For Cuba:	
Br. Str. Berwindmoor, for Havana	9,758
For Hawaii:	
Amer. Str. The Lambs, for Honolulu	2,989

FROM BALTIMORE

For Egypt:	
Ital. Str. Roama, for Alexandria	9,155

FROM PHILADELPHIA

For Cuba:	
Dan. Str. Belgien, for Havana	—
For New Brunswick:	
Br. Str. A. F. Davidson, for St. John	803

Hampton Roads Pier Situation

N. & W. Piers, Lamberts Pt.:	June 4	June 11
Cars on hand	1,663	1,684
Tons on hand	108,151	107,734
Tons dumped for week	122,131	148,949
Tonnage waiting	5,000	16,000
Virginian Piers, Sewalls Pt.:		
Cars on hand	1,155	1,339
Tons on hand	83,850	91,150
Tons dumped for week	130,404	97,075
Tonnage waiting	5,024	13,525
C. & O. Piers, Newport News:		
Cars on hand	2,312	3,552
Tons on hand	121,070	176,850
Tons dumped for week	153,901	107,000
Tonnage waiting	5,550	2,300

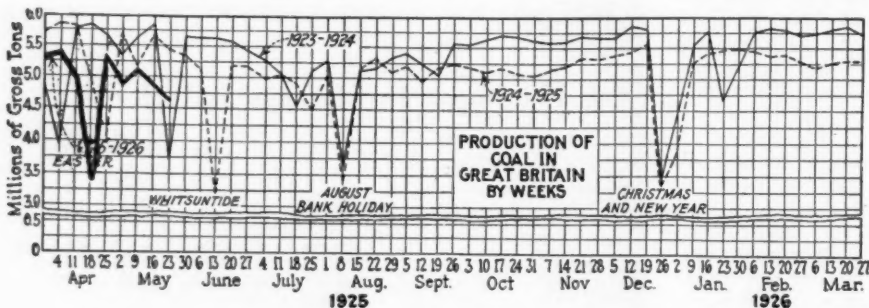
Pier and Bunker Prices, Gross Tons

PIERS		June 6	June 13†
Pool 1, New York	\$5.25@ \$5.50	\$5.40@ \$5.75	
Pool 9, New York	4.75@ 5.00	4.75@ 5.00	
Pool 10, New York	4.50@ 4.65	4.50@ 4.65	
Pool 11, New York	4.25@ 4.50	4.25@ 4.50	
Pool 9, Philadelphia	4.65@ 4.90	4.65@ 4.90	
Pool 10, Philadelphia	4.35@ 4.55	4.35@ 4.55	
Pool 11, Philadelphia	4.25@ 4.30	4.25@ 4.30	
Pool 1, Hamp. Roads	4.35	4.25	
Pool 2, Hamp. Roads	4.15	4.10	
Pools 5-6-7, Hamp. Rds.	4.00	4.10	
BUNKERS			
Pool 1, New York	\$5.50@ \$5.75	\$5.65@ \$6.00	
Pool 9, New York	5.00@ 5.25	5.00@ 5.25	
Pool 10, New York	4.75@ 4.90	4.75@ 4.90	
Pool 11, New York	4.50@ 4.75	4.50@ 4.75	
Pool 9, Philadelphia	4.80@ 5.05	4.80@ 5.05	
Pool 10, Philadelphia	4.60@ 4.80	4.60@ 4.80	
Pool 11, Philadelphia	4.45@ 4.65	4.45@ 4.65	
Pool 1, Hamp. Roads	4.45	4.30	
Pool 2, Hamp. Roads	4.25	4.15	
Pools 5-6-7, Hamp. Rds.	4.10	4.10	

Current Quotations British Coal f.o.b. Port, Gross Tons

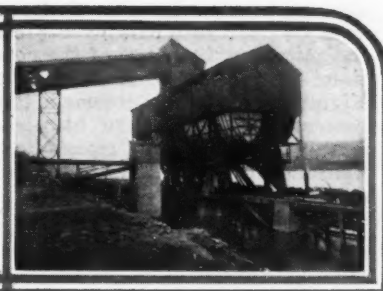
Quotations by Cable to Coal Age		June 6	June 13†
Cardiff:			
Admiralty, large	26s. @ 26s. 6d.	25s. 6d. @ 26s.	
Steam smalls	16s. @ 16s. 6d.	15s.	
Newcastle:			
Best steams	16s. 9d.	16s. 6d. @ 17s.	
Best gas	18s. 6d.	18s. 3d.	
Best bunkers	16s. 6d.	16s. 6d.	

† Advances over previous week shown in heavy type; declines in italics.





News Items From Field and Trade



ALABAMA

Judge E. H. Gary, chairman of the Board of Directors of the United States Steel Corporation, accompanied by Mrs. Gary, is spending several weeks in the Birmingham district, and is making an inspection of the properties of the Tennessee Coal, Iron & Railroad Co., Fairfield Car Works, American Steel & Wire Co. and other subsidiary operations of the Steel Corporation. While it is announced that the visit of Chairman Gary to the Alabama plants at this time is in order that he may give more extended study to the corporation's present developments and enjoy a period of rest and recreation, it is believed expansion is being considered following a visit of President Farrell and other high officials with Judge Gary a few weeks ago.

COLORADO

Examinations for state deputy coal mine inspector will be held July 6, in the House of Representatives, State House, Denver, under the auspices of the State Board of Examiners, authorized by the state Civil Service Commission and the State Inspector of Coal Mines, James Dalrymple. Applicants should file their papers with the Civil Service Commission prior to June 28. Applicants will be examined at the same time for position as mine officials.

ILLINOIS

The Troy Coal Co. has resumed operations at its mine at Troy, which had been closed since April 1. The mine is now working on a part-time basis. During the shutdown several improvements were made at the mine, including the erection of a new smokestack and extra bins to facilitate loading of trucks.

The Illinois Fuel Co. has reopened its Mine No. 4 at Sparta.

The Galesburg Mining Co., Galesburg, has begun to sink a new mine five miles east of that city. It will be served by the Santa Fe R.R. J. W. Fairbairn is the president and with him are associated nine men from Fulton County, who have been connected with the Star Coal Co. Mr. Fairbairn, W. S. Kraut and James Wood were the incorporators. The new company has leased from the Cripple Creek Coal Co. some of the land the latter surveyed a year ago for coal, the borings revealing an extensive coal field, with vein No. 1 well developed in certain parts. The shaft will be of concrete and will be 9 ft. x 14 ft. 7 in. and will permit the opera-

tion of two cages. It will extend down 100 ft. to vein No. 1, which at that point is 4 ft. 7 in. thick and of good quality. An escapement shaft will be built east of the main shaft.

B. H. Schull has resigned as general superintendent of the Cosgrove, Meehan Coal Co., to become general manager of the Black Servant Coal Co., near Elkville.

A large tract of land lying just east of Millstadt, near the M. & O. right of way, is to be developed into one of the largest strip mines in the state. A. B. McLaren & Son, of Marion, have taken lease on the property and will begin operations about July 15.

The Missouri Pacific R.R. has completed arrangements for using large quantities of coal from Mine No. 10 at Murphysboro, owned by the Consolidated Coal Co. Since the tornado this mine has been working almost every day. The company has acquired about three thousand acres lying north, northeast and northwest of the present plant.

Gayle Coal Co., Chicago, has decreased its capital stock from \$500,000 to \$250,000.

Peter Faletti, of Dalzell, has been appointed state mine inspector of the First Illinois mining district by Governor Small. The district includes nine counties across the state a short distance south of Chicago. Mr. Faletti has been serving as county mine inspector of Bureau County.

INDIANA

Tyler G. Lawton, president of District 11, United Mine Workers, has been named a member of the Indiana Board of Mines and Mining to succeed John Hessler of Terre Haute, whose term has expired. The appointment is for four years. Lawton recently was elected head of Indiana miners. Reappointment of William Johnson of Vincennes to the same board for a similar term also was announced by the governor.

Coal contracts for all county institutions of Marion County, including the jail and courthouse, have been awarded by the Board of County Commissioners. The Schrolucke Coal Co. received the contract to supply mine run No. 4 vein coal to the following institutions at the prices named: Marion County Hospital for the Insane, Julietta, \$3.16 a ton; County Infirmary, \$2.91; Tuberculosis Hospital, Sunnyside, \$3.16 f.o.b. Oaklandon, and \$3.58 on the hospital switch. Contracts for coal for the Detention Home, jail, county yard, Board of Children's Guardian's Home, court house,

and Colored Orphans' Home were given to three firms. The Commonwealth Coal Company received the contract for Virginia lump at \$5.90 a ton, the Indianapolis Coal Co. for No. 4 vein mine-run at \$4.10 a ton, and the Pittman-Rice Coal Co., for coke for the County Jail at \$8.70 a ton.

IOWA

The Pearson Coal Co. has begun the sinking of a double shaft on the James Orme farm, three miles north of Hawleyville.

The Graham Coal Co., at Avery, has reopened its mine.

A new coal mine is being opened between Nodaway and Villisca, on the Gary farm. The shaft is down 70 ft. The new property is being developed by Charles Bell.

KENTUCKY

The U. S. Circuit Court of Appeals at Cincinnati on June 10 reversed the District Court at Catlettsburg, Ky., in the suit of the Alma Coal Co. and Kentland Coal & Coke Co. against John F. Phillips and Susan J. Phillips. The plaintiffs sought to quiet the title to coal and timber lands in Pike County, Kentucky, which they claimed to have acquired from the Phillips under a contract entered into on Feb. 10, 1910, while the defendants, in counter claims, asked for cancellation of the contract. The lower court had decided the case in favor of the defendants.

In eastern Kentucky it is reported that the Hardy Burlingham Coal Mining Co. has let contracts for a large boarding house, 100 miners' homes and a new Y.M.C.A. building. The Harvey Coal Co., at Harveyton, is completing fifty homes and the Blue Diamond Coal Co., at Blue Diamond, has completed twenty-five homes. The Consolidation Coal Co., at McRoberts and Jenkins, is building 100 homes, including camps at Burdine and Dunham, and is arranging to bring in 150 additional miners from the South.

Mines at Stone, owned by Henry Ford, are being operated at near peak production, Abner Lunsford, general manager, announces. In May 280,000 tons of coal was loaded, which is within a few thousand tons of the Stone record, he said. Mr. Lunsford expects a steady increase in business during the remaining months of the year.

The Hatfield-Reliance Coal Co., at Glomawr is arranging to build several miles of road connecting its camp with the Kentucky-Virginia Highway, and is to let contracts at once. The City of

Jenkins, owned by the Consolidation Coal Co., has just paid over \$18,628 to the county as its share of the construction cost of the Kentucky-Virginia Highway, under an agreement that had been made previous to his death by John G. Smyth, late manager of the Consolidation.

The Louisville Gas & Electric Co., Louisville, has contracted for its fuel requirements and closed down its own mine at Echols.

R. C. Tway, head of the Tway Coal Co., Louisville, now owns the old river coal retailing house of Volkman & Kerlin Co., as shown in ownership proceedings filed with the County Clerk at Louisville.

MINNESOTA

The Minneapolis Real Estate Board has gone on record in favor of boosting barge transportation of southern Illinois coal as a means of obtaining cheap industrial coal. It is believed that the Upper Mississippi Valley has the capacity of an American Ruhr if cheap fuel can be provided. There is iron ore in abundance, but the high cost of fuel has prevented the development of metal industries to any extent. It is suggested to construct locks around the dams in the Mississippi River at St. Anthony Falls and eight miles north of Minneapolis, for moving coal up the river closer to the iron mines. A survey is being made of the possible down-river tonnage that might furnish return cargoes.

MISSOURI

Under the provisions of an ordinance passed by the lower house of the City Council, all retail coal dealers operating in Kansas City will be required to pay an annual license of \$100. The measure now goes to the Mayor for signing. The measure is a substitute ordinance for one killed recently in which the license was placed at \$250 a year. Objection of the small coal dealers who use less than seventy-five carloads a year led to the measure being defeated in the council after several committee hearings. The bill just passed met with the approval of a majority of the city's coal dealers.

NEW YORK

The Hillman Coal & Coke Co., of Pittsburgh, which has maintained a branch office at Buffalo for the past six years, has discontinued it and will concentrate business at the home office. Thomas B. Dunbar, the Buffalo representative, is preparing to go into the business on his own account as a wholesaler.

NORTH DAKOTA

Major Stanley Washburn, of Lakewood, N. J., principal stockholder of the Washburn Lignite Coal Co., Wilton, is about to move to Wilton to assume the management of the business there. He has been in a campaign for Congressman at a special election but will abandon it. The change is due to the death of the manager of the plant,

W. P. Macomber. Major Washburn expects to bring his family to Wilton and to remain there at least a year, developing the industry.

OHIO

The new quarters of the Eastern Coal & Export Co. in the new Atlas National Bank Building, Cincinnati, were opened for business June 15. It is understood that the office maintained by the company in Chicago will either be closed or made a subsidiary of the Cincinnati office.

A Cincinnati office has received a contract from the Boston & Maine R.R. for its year's supply of cannel coal at \$5.65 a ton.

After having thrown out the bids and laid the matter over for over five weeks, the Big Four R.R. let its business to three or four of the mines in the Hazard district on a \$1.60 basis for straight mine run and \$1.50 for 6-in. mine-run from seams 6 and 7.

OKLAHOMA

The fifth Henryetta district coal mine to resume operations started last week when Crowe Mine No. 2, just south of Henryetta, blew the whistle for work. Other mines producing in some measure—none to full capacity—are Crowe No. 6, Atlas, B. & A. and Kincaid, the latter two at Schulters. All report their forces gradually building up under the 1917 scale. About twenty-five men of the Henryetta field are said to be working. These are all union men. Operation started shortly after May 1 at B. & A. mine with other mines opening, as success there showed that the resistance of the union would not stop men from going to work. Not one instance of violence or even threatened violence has been reported. Union miners have restricted their strike operations to trying to persuade men to quit.

A meeting of representative business men was held in the Vinita National Bank recently, after Gus Bashore outlined a plan to build a 10-mile line into the heart of the coal fields. Those present indorsed the project and a committee was selected composed of P. W. Sampel, T. W. Ridgway, T. D.

Cox, E. D. Klingel, Dr. C. S. Meer, W. L. Cordery, Oscar Jones, W. O. Dillion, G. P. Carroll, Howard Waddell, A. E. Rodman and W. B. Coley to solicit funds for a \$25,000 bonus for the construction of the grade and to purchase ties. The road is incorporated as the Craig County Central. The rails and other equipment to operate the road is being leased from the Frisco railroad.

PENNSYLVANIA

Directors of the Glen Alden Coal Co. voted on June 9 to cancel its sales contract with the Delaware, Lackawanna & Western Coal Co. and authorized the calling of a special meeting of the stockholders on Aug. 10 to pass on the question of increasing the capital stock. President W. W. Inglis was directed to advise the president of the Coal Sales Company that, subject to approval of the stockholders at the August meeting, the board intends to make an offer for the exchange of one share of Glen Alden stock for a share of D., L. & W. coal stock, under a plan to be announced later.

Wilmer E. Wilkey, of Uniontown, has sold to the Bourne-Fuller Coke Co., of Cleveland, about twenty-six acres of Connellsville coal land, bearing a 9-ft. vein, in Menallen township, for \$55,000. All rights to mine and remove the coal were granted without having to provide supports for the overlying strata after the mineral has been removed.

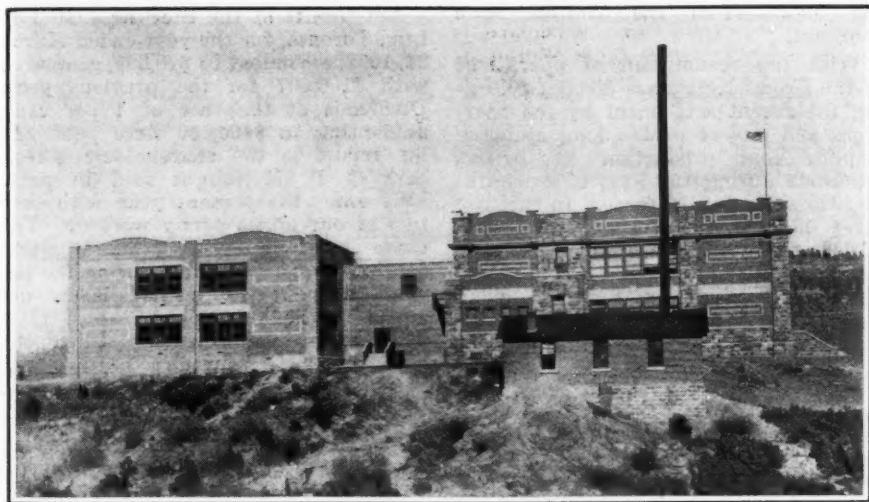
Bituminous coal (revenue) transported by the Reading Company during April, 1925, totaled 1,262,490 tons, compared with 1,177,167 tons in April, 1924.

The Hudson Coal Co., is said to be contemplating the development of coal measures south of Middleport and around Lewiston. Although no confirmation of the report was made by Hudson officials, it is believed that the company intends to construct a giant colliery in the upper Schuylkill Valley. About six months ago it was reported that the company contemplated the erection of a breaker at Milford Green, near Brockton, but an owner of water rights refused to sell his property and rights



Kingston No. 2 Breaker

At No. 2 mine of the Kingston Coal Co., Kingston, Pa. This plant has been in operation fifty-two years. Last year the average number of employees at this operation, which has both a slope and shaft, was 800 and the output was 325,000 tons of anthracite.



A Real School in a "Real" Coal Town

This is Douglas High School, an institution of 20 classrooms in Dawson, N. M., which is the town the Phelps Dodge Corp. put on the map when it developed its Stag Canyon mines nearby.

to the company. It develops now that the company has purchased the Yost mill dam, in the Lewistown Valley, about three miles away. The company, it is said, will build a large reservoir out of the present dam and pump the water over the two mountains if a breaker is built at Brockton. The company has proved practically all of its vast property in the stretch between Middleport and the Bell colliery, just above Brockton.

Mine Inspectors John B. Corgan, Thomas J. Williams and D. T. Davis, who investigated the cause of the explosion at the Woodward mine of the Glen Alden Coal Co., which cost the lives of seven men on the afternoon of May 22, last week agreed that the explosion was due to the fact that a mine door was allowed to remain open for an unusual length of time; that a body of gas accumulated and that a spark from an electric motor set off the explosion.

One of the biggest engineering contracts in the anthracite region is being taken over by the firm of Hadesty & Cullen, of Mount Carmel and Pottsville. The firm is about to begin the excavation of two tunnels in the Natalie mine near Hazleton. When completed the tunnels will have a total length of more than 2,400 ft. The work on these tunnels was started by the McDonald Company, of Philadelphia, but the task proved too much for that concern and the contract has been turned over to the Hadesty & Cullen Company.

Announcement was made in Hazleton recently that the Pine Hill Coal Co., owner of several mines in the Pottsville region, has placed the operation of its plants in the hands of the Dodson Coal Co. J. B. Connell is general purchasing agent of this company. Hereafter all business will be done from the Bethlehem offices of the Dodson company.

The investigation concerning "Lump Coal Production" instituted at Banning No. 2 mine of the Pittsburgh Coal Co. in co-operation with the Carnegie Institute of Technology and the Bureau of Mines, has just been completed. The test covered a period of eight months

and consisted of a study of the various factors involved in producing lump coal. The results of these tests are to be published by the Carnegie Institute of Technology as technical paper 19, by J. E. Tiffany and B. L. Lubelsky.

S. D. Dimmick, vice-president and general manager of the Glen Alden Coal Co., announced the following changes at the Woodward Colliery, at Edwarsville, June 1: The superintendent of the colliery, Joseph Reynolds, of Kingston, has been granted a two months vacation. John Mould, foreman at Truesdale Colliery for the last four years, has been transferred to Woodward Colliery as assistant superintendent and will assume the duties of superintendent until Reynolds returns. Thomas Millington, outside superintendent at the Woodward, goes to Truesdale as foreman to take Mould's place. William A. Edwards has been transferred from the Baker Colliery, at Scranton, to take Millington's place.

SOUTH DAKOTA

The State of South Dakota, owning a lignite mine at Haynes, N. D., expects to mine practically all the fuel for the state educational, charitable and penal institutions for the coming season. The state began operating the mine in 1919 and is on a profit-making basis, so that low prices can be named in competition with other coals.

UTAH

Andrew Corry, of Cedar City, is to open a mine on his coal property in that section, locating it on the side of Lone Tree mountain during the present summer. The mine may not aim to supply any but the local market for a long time.

Sale by competitive bidding of two coal leases on public land in Utah was authorized by the Secretary of the Interior, June 1. The first tract, comprising 1,800 acres, is located in the Book Cliffs field about 11 miles south of Sunnyside. Lease for this tract will be at a government royalty of 12½c. a ton for coal mined, a minimum investment in mining operations of \$75,000

during the first three years of the lease, and a minimum production of 50,000 tons a year beginning with the fourth year. The second tract contains 800 acres and is situated in the Pleasant Valley District of the Wasatch Plateau coal field about 3 miles west of Clear Creek. The land is underlain by the part of the Mesaverde coal measures which contain the thick and valuable Winter Quarters Bed. Lease for this tract will be at a government royalty of 10c. a ton, a minimum investment of \$90,000 during the first three years, and a minimum annual output of 50,000 tons commencing with the fourth year. Sale of the leases will be made through the local land office at Salt Lake City, the date for the sale being announced later from that office.

WEST VIRGINIA

In passing an emergency revenue bill to take care of road maintenance and public building needs, the West Virginia Legislature, in special session, on June 6, fixed a rate of 42/100 of 1 per cent on the gross value of all coal sold, as compared with the existing rate of 1/10 of 1 per cent. Before the adoption of a conference report fixing the rate as given, the Senate had passed a bill increasing the rate to 12/25 of 1 per cent, which was expected to raise \$208,000 over and above the existing rate. The Legislature also adopted a resolution calling on Governor Howard M. Gore to appoint a commission of seven men acquainted with commercial and industrial conditions in the state to study tax problems and to recommend to the next Legislature a permanent system of raising revenue.

The Whyel Coke Co. is engaged in the erection of a 40-ft. steel tippie at its Yukon mine, in Monongalia County, near Arnettville. It is probable that the tippie will be completed and ready for use by the middle of July. The C. L. Miller Co., of Scottdale, Pa., has the contract for the erection of the tippie, which is to have four-track shaker screen equipment with loading booms. The mine produces Sewickley coal and capacity will be about 1,200 tons a day.

There has been a renewal of activity at the mines of the West Virginia Coal & Coke Co. in northern West Virginia, most of which had been shut down for some time. It has been announced by General Manager E. L. Mickey, of the Elkins District, that the plants at Mabie, Coalton, Harding and Bower will resume operations and that the Norton mine will be operated on a full time basis, giving employment to at least 500 men. The company has mines also in the Logan and Kanawha fields. The company was reorganized late last year when the mines of the Main Island Creek Coal Co., the Rich Creek Coal Co., the Logan Mining Co. and the Empire Coal Co. were taken over. C. E. Hutchinson, of Fairmont, is president of the company.

From apparently authentic sources it is learned that the Algonquin Coal Co., which has been in the hands of a receiver for some time and which has not been producing lately, may resume

operations at an early date under the management of the original owner, M. E. Kingsley of New York, and with Roy Wright as superintendent. Mr. Wright is at the present time receiver of the company. It is understood that a plan for refinancing the affairs of the company has been worked out and agreed to by a majority of the company's creditors, which involves the issuance of new bonds.

The Campbell's Creek Coal Co., with general offices at Cincinnati, Ohio, is making progress in sinking a shaft to the No. 2 gas seam at its new mine in the Kanawha field.

Negotiations are pending, it is stated, for handling the output of the mines of the Sullivan Pond Creek Coal Co., in the Williamson field, and these mines will be reopened if negotiations are consummated. J. C. Sullivan, of Charleston, is president of the company.

The Pocahontas Fuel Co. is making progress on the large new plant under construction at Faraday. It will be recalled that last year the company purchased about 30,000 acres of Pocahontas coal land from the Frick estate in McDowell County, W. Va., and Tazewell and Buchanan counties, Virginia.

The mine tipple of the E. B. Stone Coal Co. on Scotts Run, which was partly damaged by fire recently, will be repaired, the owner, Robert Barrackman, has announced. A new scale will be bought and the scale house rebuilt immediately. Repairs to mine machinery and haulage apparatus will be continued. The interior of the mine also will be cleaned up. It is uncertain, however, when operations will be resumed.

Sixty coal companies in Monongalia, Harrison and Marion counties may be represented in the oft-mentioned \$100,000,000 merger now under way. Inspection of the last mine in the region, it is reported, will be completed this week. Probably within ten days the success or failure of the merger will be learned, it is reported.

It is understood that A. J. Stewart, formerly with the J. C. Sullivan interests, is planning the development of a mining property on Little Ear Creek, in McDowell County, near Iaeger.

WASHINGTON, D. C.

C. P. White, Chief of the Coal Division, Department of Commerce, left Washington June 12 on a trip to Toledo, Ohio, and Chicago, Ill., for the purpose of interviewing representatives of the bituminous coal industry in regard to conditions in that industry. During his stay in Chicago Mr. White will attend some of the sessions of the annual convention of the National Coal Association.

CANADA

The coal miners of the Lethbridge (Alta.) district on June 3 voted, 264 to 99, to return to work and to accept a wage cut of about 6 per cent for contract men and about 30 per cent for day wage men. An independent local union has been formed known as the Lethbridge Miners' Federation, break-

ing away from the United Mine Workers.

With the resumption of operations in the Crows Nest Pass district following the recent settlement by the operators and miners of the long standing dispute coal production in British Columbia during the first four months of 1925 shows an increase. In the first three months the output was about 50,000 tons less than for the same period in 1924, but with the speeding up in the Crows Nest district, during April, this adverse condition was practically wiped out and for the four months ended April 30 the total production aggregated 795,740 gross tons compared with 797,127 tons in the first four months of 1924. Production on Vancouver Island, however, is still considerably behind that of 1924, the total for the four months being 459,490 gross tons compared with 526,042 tons in 1924. Crows Nest District production in the four months was 283,719 tons compared with 190,041 tons in 1924.

Sealed tenders will be received by the Security Trust Co., Ltd., Calgary, Alta., up to 5 p.m., July 6, for the purchase free from encumbrances except 1925 taxes, of the mining lands, plant and equipment of Gibson Collieries, Ltd. The property is situated at Drumheller and consists of 3,317 acres more or less freehold coal, 625 more or less acres leasehold coal, 40 acres 10c. ton royalty; 38 acres freehold surface on which are a modern tipple hoist, double cages (electric power), buildings, spur track, subject to rents and upkeep and 5c. per ton right of way charge, etc.

Output of coal from Canadian mines in March totaled 786,389 tons, compared with 1,156,902 tons in February. The reduction of 32 per cent was due mainly to the strike of the Nova Scotia miners. The decrease as compared with the average March output during the five preceding years was 609,409 tons, or 44 per cent. Imports of coal during March were 1,023,405 tons as against 1,024,896 tons imported in February. Imports from Great Britain were 4,841 tons. The total March imports were 34 per cent below the 5-year average for the month. Total imports for the first three months of the year were 3,215,083 tons, or 18 per cent below the 5-year average for the period. Exports of Canadian coal in March were 68,226 tons, compared with 41,691 tons in February an increase of 63 per cent, but a decrease of 65 per cent as compared with the 5-year average for the month.

The Hat Creek Coal Co., with an authorized capital of \$5,000,000, and head office at Vancouver, has been incorporated to take over and operate the Hat Creek mine, 15 miles from Pavilion on the Pacific Great Eastern Ry., the British Columbia Government line. Recent diamond-drill exploration over a large area has demonstrated the existence of a seam of lignite averaging 525 ft. in thickness, with only a few thin shale partings. The new company plans to construct a spur from Pavilion to the mine, and it is practically certain that the Provincial Government will contribute handsomely toward the construction of the spur, as the hauling of coal will materially benefit the railway.

Net profits of the Sterling Coal Co., Ltd., Toronto, for the year ended March 31, 1925, amounted to \$70,639, compared with \$156,607 for the previous year. Dividends at the rate of 4 per cent, amounting to \$100,000 were paid. In his report to the shareholders, President C. B. McNaught said in part: "We enter the present year with only two of our mines partly working. The trade conditions creating this situation continued and intensified during the period under review. Price levels declined to the lowest point since 1916, while union labor costs are still at the highest point. Your directors are now considering proposals for the sale of the Ohio properties."

Coke production in Canada during April amounted to 131,484 tons, as compared with 138,783 tons in March, 102,698 tons in February and 101,132 tons in January. Imports of coke declined sharply to 35,080 tons as against 67,034 tons brought in during March. For the first four months of the year the output of coke from Canadian plants totalled 474,085 tons and the total disposition amounted to 492,604 tons.

At a mass meeting held on the evening of June 5, the employees of the Western Fuel Corporation of Canada decided by an almost unanimous vote not to accept the proposed reduction of 60c. per day in the wage scale, to stop negotiations with the company in the matter, and to stay away from the mines until such time as the manager or other officials of the company reopened negotiations. J. D. McNiver, Provincial Deputy Minister of Labor, who attended the meeting, urged the men to continue negotiations with the company, but they turned a deaf ear to his suggestion.

Following the acceptance by the miners of a reduction of approximately 60c. per day in the wage rate, the Canadian Collieries has been operating its mines for five days per week, instead of only three, and now it is making preparations to open No. 5 mine at its Wellington colliery. This mine has been closed for several months, owing to general slackness of trade.

Traffic

Southwest Rate Change Deferred

The effective date of proposed adjustments in freight rates—higher in most instances—on shipments of coal in carloads from stations in Arkansas and Oklahoma on the Midland Valley R.R. to destinations in Texas has been postponed by the Interstate Commerce Commission from June 4 until Oct. 2, pending public hearings and a decision therein.

On June 6 the Interstate Commerce Commission extended to Dec. 31 the time for the Louisville & Nashville R.R. to file completed plans regarding connections from its lines in southeastern Kentucky to the Carolina Clinchfield & Ohio R.R., which was jointly leased for 999 years by the L. & N. and Atlantic Coast Line last year.

Summer Coal Mining Schools

Pennsylvania State College, June 22-July 25. Tuition free. Lodging \$2.50 to \$3.50; board, \$6.50 to \$7.00 per week. Address: E. A. Holbrook, Dean, the School of Mines & Metallurgy, State College, Pa.

Carnegie Institute of Technology, June 15-July 14. Tuition for course, \$12. Lodging in dormitory at Institute \$2.50 a week. Address, Supervisor, Co-operative Mining Courses, Carnegie Institute of Technology, Schenley Park, Pittsburgh, Pa.

Commonwealth of Virginia, State Board of Education. Foreman Training Conference, June 22-July 3. Address B. H. Van Oot, State Supervisor of Trade and Industrial Education.

Recent Patents

Signaling System; 1,529,940. Frank Bohy and Peter L. Haser, Arnold, Pa. March 17, 1925. Filed May 26, 1924; serial No. 716,001.

Safety Device for Bucket Conveyors; 1,530,478. Axel Carlson, Chicago, Ill. March 24, 1925. Filed March 14, 1924; serial No. 699,198.

Mining Machine; 1,530,595. Charles E. Davis, Chicago, Ill., assignor to Goodman Mfg. Co., Chicago, Ill. March 24, 1925. Filed May 23, 1921; serial No. 471,729.

Trapdoor for Mines; 1,530,669. Edgar Hartley, Paul Vagina and Horace Hartley, Joliet, Ill. March 24, 1925. Filed Nov. 7, 1923; serial No. 673,320.

Method and Apparatus for Cleaning Coal; 1,531,374. Robert B. Blackburn, Glassport, Pa., and G. G. Brown, Hinsdale, N. H. March 31, 1925. Filed June 16, 1921; serial No. 478,203.

Skip-Hoist Control; 1,531,860. W. E. Hale, Fort Washington, Pa., assignor to R. H. Beaumont Co., Philadelphia, Pa. March 31, 1925. Filed March 6, 1923; serial No. 623,082.

Coming Meetings

Illinois Mining Institute. Annual meeting, June 18-20, on board boat leaving St. Louis, Mo. Secretary, Martin Bolt, Springfield, Ill.

International Chamber of Commerce. Third general conference, Brussels, Belgium, June 21-27.

American Society for Testing Materials. Twenty-eighth annual meeting, week of June 22, Chalfonte-Haddon Hall, Atlantic City, N. J. Secretary-treasurer, C. L. Warwick, 1315 Spruce St., Philadelphia, Pa.

Mining Society of Nova Scotia. Thirty-third annual meeting at the Bras d'Or Hotel, Baddeck, C. B., June 23 and 24. Secretary, E. C. Hanrahan, Sydney, N. S., Canada.

American Institute of Electrical Engineers. Annual convention, Saratoga Springs, N. Y., June 22-26. Secretary, F. L. Hutchinson, 29 West 39th St., New York City.

Chemical Equipment Exposition. June 22-27, Providence, R. I. Association of Chemical Equipment Manufacturers, 1328 Broadway, New York City.

Twelfth National Foreign Trade Convention, Seattle Wash., June 24-26. Chairman, James A. Farrell, National Foreign Trade Council, Hanover Square, New York City.

American Institute of Mining and Metallurgical Engineers. 132d meeting, at Salt Lake City, Utah, Aug. 31 to Sept. 3. Secretary, F. F. Sharpless, 29 West 39th St., New York City.

National Safety Council. Annual meeting Sept. 28 to Oct. 2, at Cleveland, Ohio. Managing Director, W. H. Cameron, 168 No. Michigan Ave., Chicago, Ill.

Tenth Exposition of Chemical Industries, Sept. 28 to Oct. 3, at Grand Central Palace, New York City.

Canadian Institute of Mining and Metallurgy. Annual western meeting Nov. 3-5, Winnipeg, Manitoba, Can. Secretary, George C. Mackenzie, Drummond Bldg., Montreal, Que., Can.

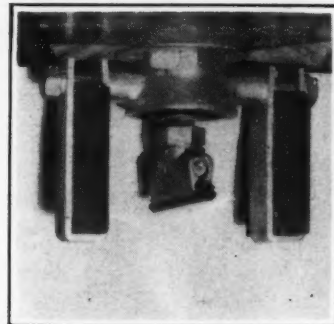
Fourth National Exposition of Power and Mechanical Engineering, Nov. 30 to Dec. 5, at Grand Central Palace, New York City.

New Equipment

Trolley and Guard Hanger Aid To Safety

Crossings, turnouts and room necks long have been recognized as points of danger within the mines. This is chiefly because it is at these points that danger of shock from the trolley wire is most acute. It is here that the heads of workmen, the augers or drill steels that are in their hands, or the kegs of powder on their shoulders are most liable to come in contact with the positive side of the haulage circuit, in many instances with disastrous results. So potent and well recognized is this danger that many means have been devised to overcome it.

The accompanying illustration shows a combined trolley and guard hanger recently placed on the market by the General Electric Co., of Schenectady, N. Y. As may be seen, the straps supporting the guard boards are practically clevises or shackles, affording them unusually rigid anchorage. By notching, guards far wider than those



Combined Trolley and Board Hanger

At many points within the mine the trolley wire requires guarding lest the heads of workmen or the tools that may be over their shoulders come in contact with it. This can be accomplished most effectively by means of a combination hanger, as here shown.

here shown may be used. The same result may be accomplished by increasing the length of the clevises.

Large-Capacity Slate Lorry Lessens Mining Costs

Although slate larries are among the oldest and commonest of mine equipment, new details and improvements may be embodied in them. The accompanying illustration shows a 30-ton standard-gage larry recently built by the Vulcan Iron Works, of Wilkes-Barre, Pa., for the Colonial Colliery Co.

This larry has a capacity of 700 cu.ft. or about 30 tons of the material normally handled. It is intended for the transportation of slate and rock from the breaker to the dump and is equipped with two 75-hp. motors that operate from a trolley carrying 250 volts direct current. The car body or box is fitted with a sloping bottom, the discharge door being opened by means of compressed-air cylinders. Braking is accomplished by the same means, an air compressor being located inside the cab. The total weight of the larry when empty is approximately 20 tons, or about two thirds that of the weight carried.

Disposal of rock and slate from the breaker or tippie is ordinarily one of the unavoidable evils of mining. Where

Mounting Prevents Drill Slue

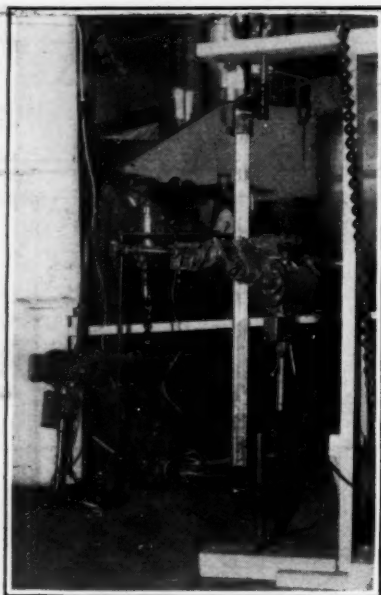
In order to prevent side thrust or a tendency to revolve its mounting, it has been necessary in the past to mount electric coal drills either upon a comparatively heavy column or upon a double or yoke post. Recently, however, the Chicago Pneumatic Tool Co. has developed the offset post mounting shown in the accompanying illustration. This is so constructed as to bring the thrust of the drill in line with the top and bottom supports or bearings on roof and floor.

The drill here shown is a Little Giant, type 600, capable of sinking 2- to 2½-in. shot holes at the rate of 2 ft. per minute. It is attached to a steel tube 3 in. square. This is provided with offset castings at both ends that hold a pointed tube at the bottom and a screw jack at the top. The arrangement is such that regardless of the position of the drill upon the square column the thrust of the machine is always in line

Rear View of Slate Car

In building this larry several details of design have been adopted from successful railway practice. This is noticeable particularly in the trucks. The brake mechanism, however, as well as the gate opening device are actuated by compressed air.





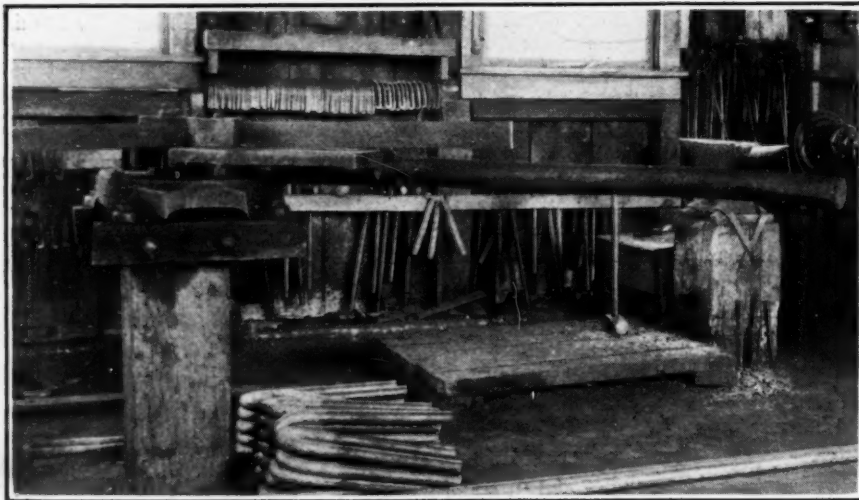
Offset Post Mounting

The drill is here shown mounted on a square post so offset at top and bottom as to bring the center of drill thrust in line with the bearing on roof and floor. Thus there is no tendency for the post to turn.

with the top and bottom supports. This obviates all tendency for the post to slue or revolve.

Plate and Bar Bender Aids Mine Car-Rebuilding

Iron straps and square- and round-section bars can be shaped more accurately and in less time in a lever-operated bending machine than they can on an anvil. Such a machine is now being manufactured by J. A. Hinman & Co., of Sandwich, Ill. Mounted on a heavy cast base are two jaws, between which the object to be shaped is inserted. One jaw is stationary and the other fastened to a pivoted lever arm. The movable jaw can be swung to assume an angle of 180 deg. or less with the fixed one. The machine can be adjusted to accommodate various sizes and sections of stock, which can be straightened as well as bent.



The Lever-Operated Bender on the Job

This shows a Hinman bender in use in a mine shop at Lonaconing, Md. A pile of coupling links in the process of manufacture may be seen on the floor under the lever. This machine is particularly useful in bending car belts.

In the blacksmith shop at the Sonny mine of the Georges Creek Coal Mining Co., Lonaconing, Md., this machine is utilized largely in the rebuilding of mine cars. It is particularly useful in bending the iron straps that hold the side boards.

Association Activities

Members of the Southwestern Interstate Coal Operators' Association met in Kansas City, Mo., June 9, elected officers, adjourned and went home. There was nothing else to do. The association is bound to the high wage scale of 1924 for three years by a contract signed in Kansas City in May of that year. To dispose of the product at their mines members must compete with coal from Oklahoma and Arkansas mined by independent producers under the 1917 scale. The only escape from the 1924 contract is by resigning from the association. A few have done this, but the majority, especially those with mines in Kansas, where the union is strongly entrenched, have stood pat. These officers were elected: George J. L. Wulff, Western Coal & Mining Co., St. Louis, president; John A. Sargent, Central Coal & Coke Co., Kansas City, vice-president at large; Frank Thomas, Clemens Coal Co., Pittsburg, Kan., vice-president for Kansas; Robert Boyd, Central Coal & Coke Co., Huntington, Ark., vice-president for Arkansas; J. C. Reid, Wise-Buchanan Coal Co., Henryetta, Okla., vice-president for Oklahoma; A. E. Marriott, Marriott Coal Co., Moberly, Mo., vice-president for Missouri; C. H. Markham, Jackson-Walker Coal & Mining Co., Kansas City, secretary; George Manuel, Kansas City, treasurer and assistant secretary; W. L. A. Johnson, Kansas City, general commissioner; Bernard Harrigan, Pittsburg, Kan., commissioner District 14; P. R. Stewart, Fort Smith, Ark., commissioner District 21; Joe Johnson, Henryetta, Okla., assistant commissioner District 21; George Manuel, Kansas City, commissioner District 25. Of these, W. L. A. Johnson, Manuel, Harrigan, Stewart and Joe Johnson held the same offices last year.

New Companies

The Gannon Coal Co. has been incorporated at West Terre Haute, Ind., to do a general mining business. The incorporators are Ray G. McCarty, Emery LeMay and W. W. McCarty.

The Fayette Producers' Coal Co. has been incorporated in Vigo County, Ind., to take over Sanford mine No. 2. The incorporators are John Peters, William A. Garrison, Thomas E. Quick, Louis Frost and E. M. Froschauer.

The Hawk Mining Co. has been incorporated at Rockville, Ind., to do a general mining business. The incorporators are: Charles A. Hawk, Charles E. Hawk and Clifford A. Hawk.

Obituary

Edward Shirkie, 66 years old, for years one of the leading coal operators in the Indiana field, died at the Union Hospital in Terre Haute, Ind., June 6, following an illness of several months. He had been active in the coal business both in the Terre Haute and Clinton fields for virtually all his life. He and his father, Stewart Shirkie, and his brother, Hugh, developed a large number of mines in the Clinton field, at one time controlling ten shafts there. They developed the mines now operated by the Dering Coal Co. and the C. & E. I. Railroad. Mr. Shirkie moved from Clinton to Terre Haute about fifteen years ago and had been giving up his coal interests gradually as his health declined. At the time of his death he was president of the Bickett-Shirkie Coal Co. and the Tighe Coal Co. He also was a director in two banks of Terre Haute.

John G. Kerr, for many years secretary and treasurer of the New Mexico Coal Operators' Association, and Denver wholesale coal dealer, died May 30, after a brief illness at his home, in Denver, Colo. Mr. Kerr resigned his position as secretary and treasurer of the New Mexico Coal Operators' Association in 1921, that he might open offices of his own to engage in the wholesale coal business. During the world war he was secretary of the Colorado Coal Survey Commission, a branch of the government coal bureau. Under the direction of Federal Fuel Administrator Garfield Mr. Kerr compiled valuable data relative to coal resources of Colorado. Funeral services were held June 2.

Robert Andrew, 67 years old, one of the pioneer coal operators in the Terre Haute, Ind., field, is dead at his home in Terre Haute, after several months' illness. Mr. Andrew was born in 1858 in Brazil, Ind., and had been active in coal operations for many years. At an early age he was engaged in the coal business with his father. He will be remembered as manager of the Lancaster Block Coal Co., which operated several mines in Clay and Vigo counties. For several years he was secretary and treasurer of the Diamond Coal Co. of Brazil. He is survived by his wife and two sons and two daughters.

William A. Webb, a former resident of Williamsport, Pa., and son of General George Webb, who built the Catawissa R.R. into Williamsport, died on June 8, at Clifton Springs, N. Y. He was born May 28, 1867. He was president of the Empire and Pioneer coal companies, which have their principal operations in Clearfield County, Pa., and was prominent in the bituminous-coal industry. Mr. Webb resided in Philadelphia, and was an uncle of G. Webb Shillingford, of Clearfield, with whom he was associated in the coal business.

Frank H. Kinney, president of the Cincinnati Builders' Supply Co., Cincinnati, died June 8 at the age of 57, after only a few hours' illness. Some seven or eight years ago he organized, with Charles Tribbey, now dead, the Tribbey Coal Co., purchasing mines in the Hazard and Jellico districts in Kentucky and Tennessee. He was one of the large stockholders of the Midland Coal Sales Co., and later became prominently identified in the ownership of other mines in that vicinity.

Industrial Notes

It is announced that hereafter the interests of A. France Focquet, of Liege, Belgium, in the Rheo-Washer for the preparation of coal will be handled by the American Rheolaveur Corp., 120 Broadway, New York City, of which P. S. Gardner, vice-president, Shamokin Coal Co., is president. Antoine France and Amand Andry have been in this country attending the Cincinnati exposition and conference.

The Kent Engineering Co., district representative of the Conveyors Corporation of America, Chicago, have removed their office to 716-718 Builders Exchange Building, Minneapolis, Minn. The Kent company handles the sale of American steam jet ash conveyors, airtight doors, ash gates and other power-plant supplies in Minnesota and adjacent territory.

The American Appraisal Co. recently opened offices at 612 Mercantile Bank Bldg., Dallas, Texas, and in the Pioneer Trust Building, Kansas City, Mo. L. B. Jones is in charge of the Dallas office and John F. Wood of the Kansas City office.